SERVICE MANUAL

Pm-6a

marantz®

Model Pm-6a

Stereo Pre Main Amplifier

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:
Parts can be ordered either by mail or by telex. In both cases, MARANTZ part number has to be specified. If you order by mail, fulfil MARANTZ order forms.

MARANTZ S.A.
EUROPEAN PARTS DEPARTMENT
2, Avenue Léopold III
B-7120 PERONNES-lez-BINCHE
BELGIUM
TWX: 57589 SEPLT B

The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING:
Parts may be ordered from the following addresses:

EUROPE

MARANTZ S.A.
European Parts Department
2, Avenue Léopold III
B-7120 Péronnes-lez-Binche
Belgium
Telex: 57589

MARANTZ NORSKE A.S.
Refstadalleen 13
Oslo 5
Norway
Telex: 19659

MARANTZ DENMARK
Bregnerødvej 132b
3460 Birkerød
Denmark
Telex: 39137

MARANTZ GMBH AUSTRIA
Wiedner Hauptstrasse 98
1050 Wien
Austria
Telex: 113583

MARANTZ S.A.
326 Avenue Louise Bte 32
1050 Brussels
Belgium
Telex: 26602

MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

MARANTZ BELGIUM
45 Rue Auguste Van Zande
1080 Brussels
Belgium

MARANTZ SVENSKA A.B.
Svartviksvangen 56
Traneberg - Box 12016
16112 Bromma
Sweden
Telex: 13449

MARANTZ GERMANY GMBH
Max Planckstrasse, 22
6072 DREIEICH 1
West Germany
Telex: 4185316

MARANTZ AUDIO U.K. LTD.
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

AUSTRALIA

MARANTZ AUSTRALIA PTY., LTD.
32 Cross Street
Brookvale, N.S.W. 2100
Australia
Telex: 24121

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

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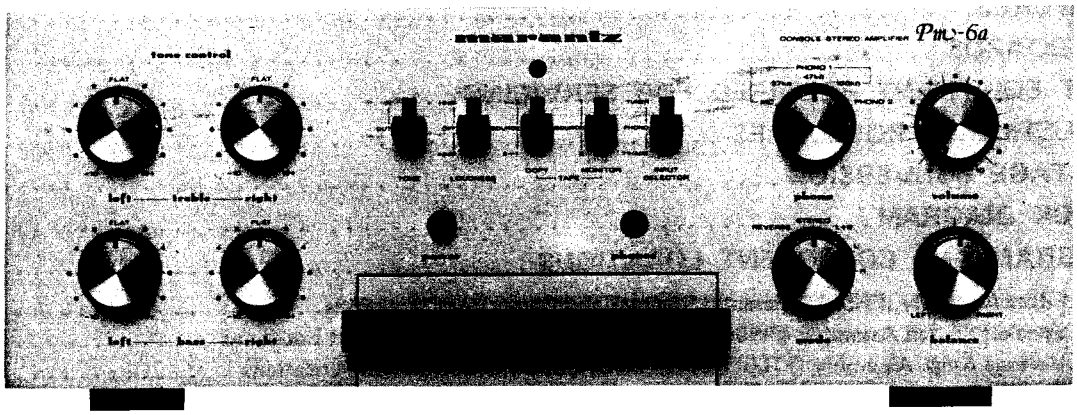
MARANTZ MODEL Pm-6A STEREO PRE MAIN AMPLIFIER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Staions and contains service information for the Marantz Model Pm-6a Stereo Pre Main Amplifier.

Servicing information and voltage data included in this manual are intended for use by knowledgeable and experienced personnel only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of circuitry operation.

The parts list furnishes complete ordering information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

1. FEATURES

- **MC Head Amplifier (13 transistors for each channel)**
  The first stage of the MC head amplifier is a push-pull amplifier consisting of 4 very low noise NPN transistors and 4 very low noise PNP transistors. The second stage is also a push pull amplifier, and the output stage is a SEPP amplifier.
  The feedback circuit impedance is reduced as much as possible to improve the S/N ratio, and a voltage gain of 20 dB (10 times) is obtained at a rated input level of 125 μV.

- **PHONO Amplifier (11 transistors for each channel)**
  The PHONO amplifier uses a full push-pull circuit consisting of 11 transistors for each channel so that low TIM distortion and a high S/N ratio are obtained.
  The first stage is a push-pull circuit consisting of very low noise, high Gm N and P channel FETs combined with a cascode current Miller circuit so that degradation of following stage characteristics due to input stage impedance fluctuation is prevented.
  The second stage consists of an emitter follower buffer amplifier and a push-pull voltage amplifier.
  The output stage uses a SEPP circuit which is adequate to drive any type of load. The equalizer elements have very low impedances compared with conventional circuits so a S/N ratio of 90 dB is obtained at the rated input level. The equalizer elements are metal film resistors with tolerances of 1% and polypropylene capacitors with tolerances of 2%; this makes it possible to obtaine an RIAA phono equalization of ±0.2 dB over the audio range from 20 Hz – 20 kHz.

Input impedances 27 kΩ, 47 kΩ and 100 kΩ are provided for different types of cartridges when the PHONO 1 input is selected.
The PHONO amplifier output circuit is provided with a relay to mute undesirable noise when the power is switched ON and OFF, and with a EQ subsonic filter to reduce turntable rumble and flutter.

- **Quarter A System**
The quarter A system automatically switches the bias current and supply voltage to the main amplifier by detecting the main amplifier input voltage and speaker current; thus, the main amplifier operates in class A when the power output is up to 30W/8Ω, and in class AB when the power output exceeds that level.
The phase correction circuit in the detection circuit prevents distortion from being generated even if a waveform with a sharp rising edge is applied.
Marantz's usual superb amplifier circuit has not been altered in this system, except that the detection circuit is connected to the signal system.

Voltage amplifier
The input circuit of the voltage amplifier is a source follower using a pair of FETs, so variation in the impedance of this stage does not influence following stage characteristics. The next circuit is a differential amplifier using a dual transistor, followed by an active balance loading circuit using a dual transistor.
One of the differential amplifier output signals is phase-inverted, then both signals are applied to the push-pull amplifier through the emitter follower buffer.

Power amplifier
The power amplifier employs triple Darlington connection and supper high f_T power transistors connected in parallel.
The power amplifier uses unique push-pull circuit with excellent open loop characteristics and a 2-pole phase compensation circuit, so the frequency response is flat even at high frequencies and TIM distortion is reduced remarkably.

Other features
The speaker protection circuit uses a high performance IC and relay. The power supply circuit uses a large transformer with high regulation and newly developed, large capacity custom electrolytic capacitors.
To obtain continuous high power output, high efficiency heat pipes are used to radiate the heat produced by the power transistors.

2. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model Pm-6a consists of the following units. Each unit mounted on a printed circuit board is descrided within the square enclosed by a bold dotted line on the circuit diagram.

1. **Pre-Amp. . . . . mounted on P.W. Board P400**
2. **Transistor Block . . . . . mounted on P.W. Board P401**
3. **Power Amp. . . . . mounted on P.W. Board P600**
4. **Voltage Amp. . . . . mounted on P.W. Board P700**
5. **Ripple Filter . . . . . mounted on P.W. Board PC00**
6. **Tone Amp. . . . . mounted on P.W. Board PE01**
7. **Loudness . . . . . mounted on P.W. Board PF00**
8. **Mode/Balance/Vol. . . . mounted on P.W. Board PG00**
9. **Filter . . . . . mounted on P.W. Board PH00**
10. **Test Point . . . . . mounted on P.W. Board PJ00**
11. **A-B Power Switch . . . . mounted on P.W. Board PK00**
12. **A-B Detector . . . . . mounted on P.W. Board PL00**
13. **MC Transistor Block . . mounted on P.W. Board PM01**
14. **ASO Protector . . . . . mounted on P.W. Board PN00**
15 **Tone On-Off . . . . . mounted on P.W. Board PS00**
16. **Phone Input . . . . . mounted on P.W. Board PV00**
17. **Speaker Switch . . . . . mounted on P.W. Board PW00**
18. **Head Phone . . . . . mounted on P.W. Board PX00**
19. **L.E.D. Power Ind. . . . . mounted on P.W. Board PY00**

3. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model Pm-6a Stereo Pre Main Amplifier.

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
AC VTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Circuit Tester	Trouble shooting
DC VTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer (0 ~ 140V AC, 10A)	Adjust level of primery power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

4. ADJUSTMENT PROCEDURES

- **Bias Current Adjustment**

(1) Class B
Connect JL15 and JL12 with a jumper.
Parts adjusted: RL43 and RL44
Input: —
Output: 8Ω load
Adjustment: Connect a digital voltmeter between JJ01 and JJ02 (for the L channel) or between JJ03 and JJ04 (for the R channel). Wait until the voltage stabilizes (30–60 seconds), then adjust RL43 or RL44 so that the voltmeter reads 14 mV.

(2) Class A
Parts adjusted: RL39 and RL40
Input: —
Output: 8Ω load
Adjustment: Connect a digital voltmeter between JJ01 and JJ02 (for the L channel) or between JJ03 and JJ04 (for the R channel). Wait until the voltage stabilizes (30–60 seconds), then adjust RL43 or RL44 so that the voltmeter reads 370 mV.

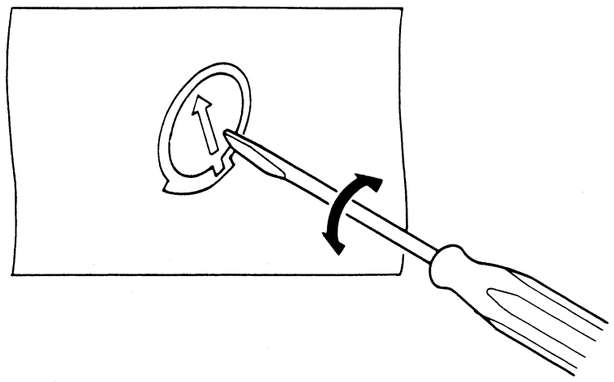
5. VOLTAGE CONVERSION

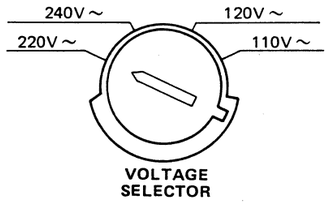
• EUROPEAN MODEL ONLY

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.

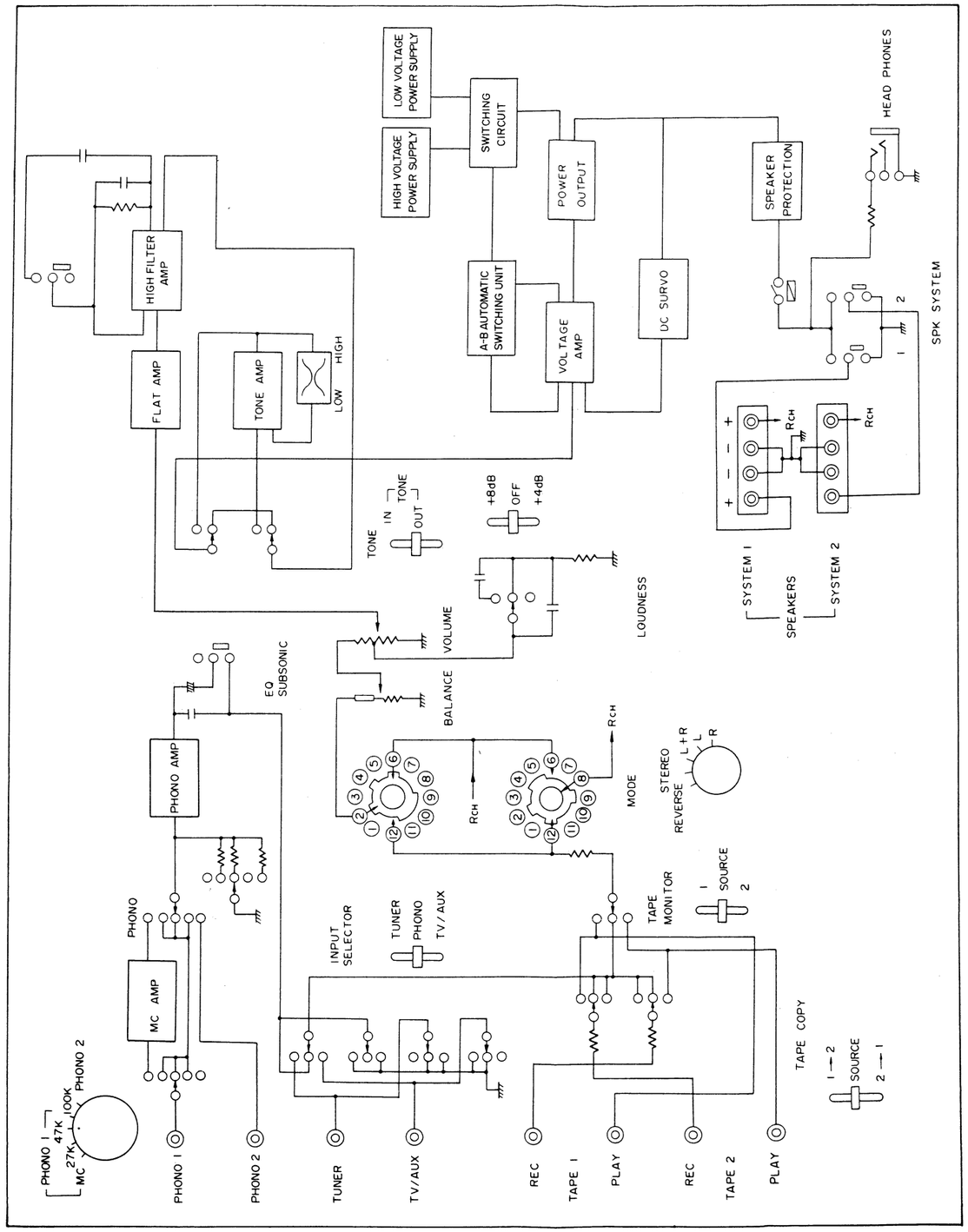
Voltage Conversion Chart





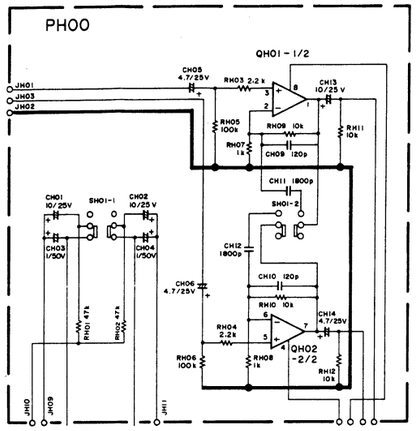
Note on safety: Symbol ⚠ Fire or electrical shock hazard. Only orignal parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

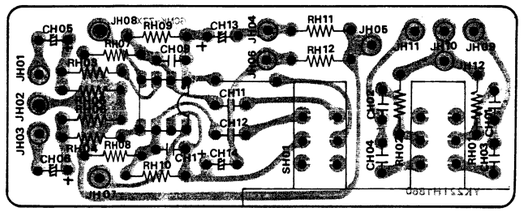
6. BLOCK DIAGRAM



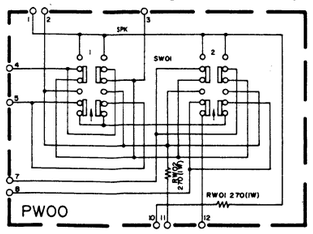
7. DIAGRAM AND COMPONENT LOCATIONS

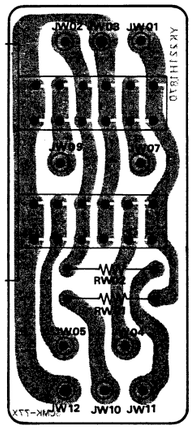
7.1 Filter Assembly (PH00) Schematic Diagram and Component Locations



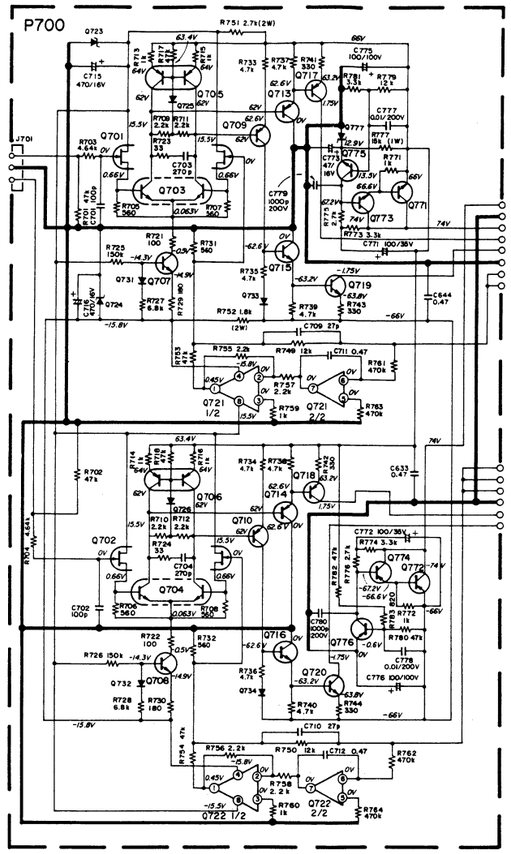


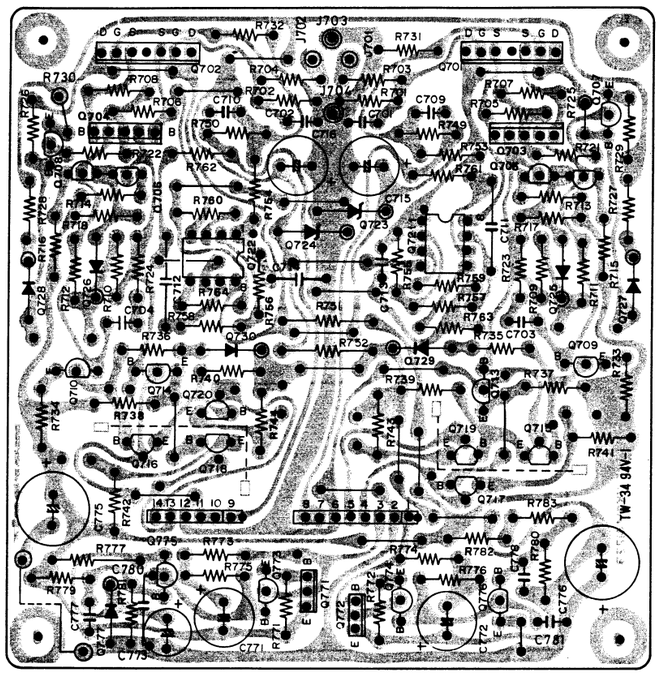
7.2 Speaker Switch Assembly (PW00) Schematic Diagram and Component Locations



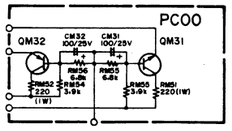


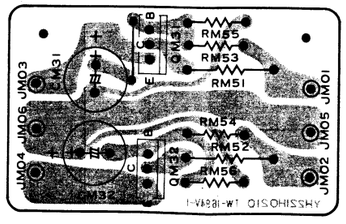
7.3 Voltage Amp. Assembly (P700) Schematic Diagram and Component Locations



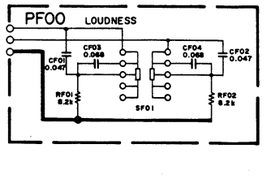


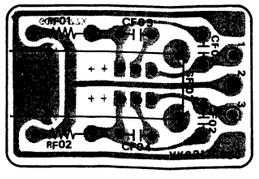
7.4 Ripple Filter Assembly (PC00) Schematic Diagram and Component Locations



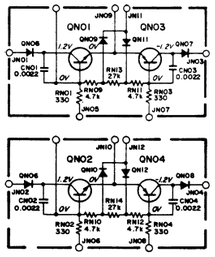


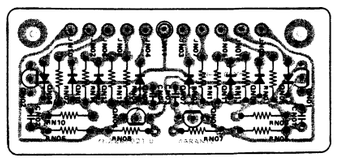
7.5 Loudness Assembly (PF00) Schematic Diagram and Component Locations



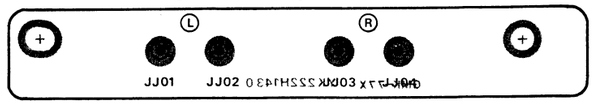


7.6 ASO Protector Assembly (PN00) Schematic Diagram and Component Locations

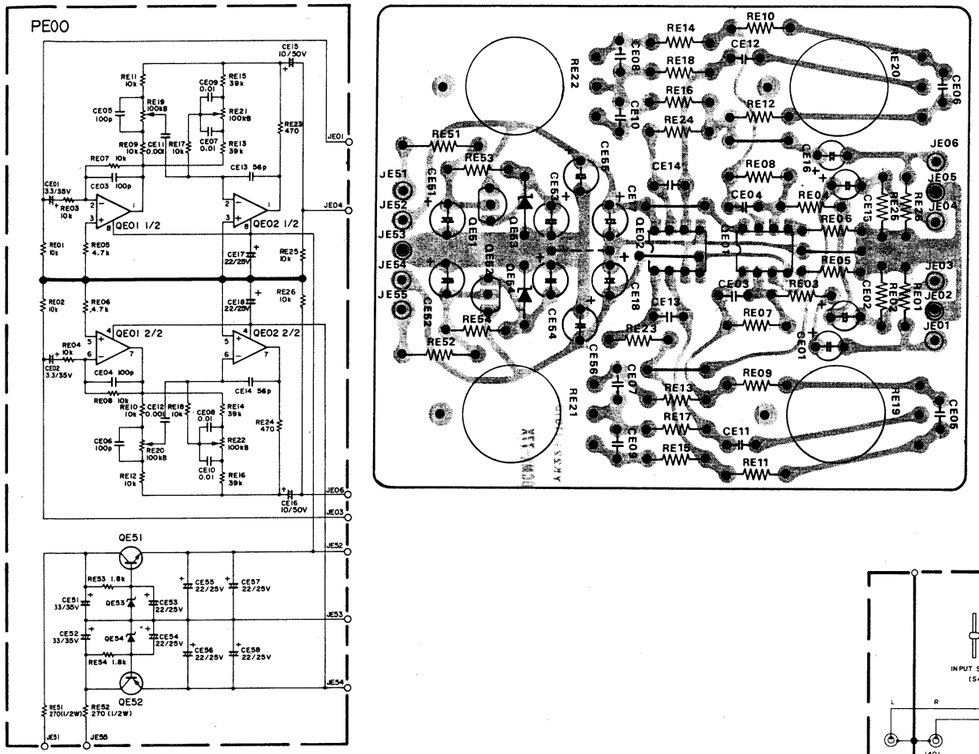




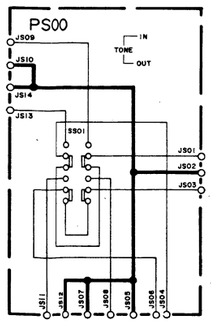
7.7 Test Point Assembly (PJ00) Schematic Diagram and Component Locations

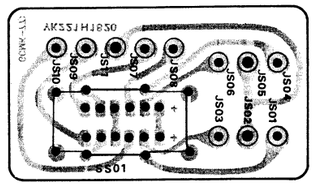


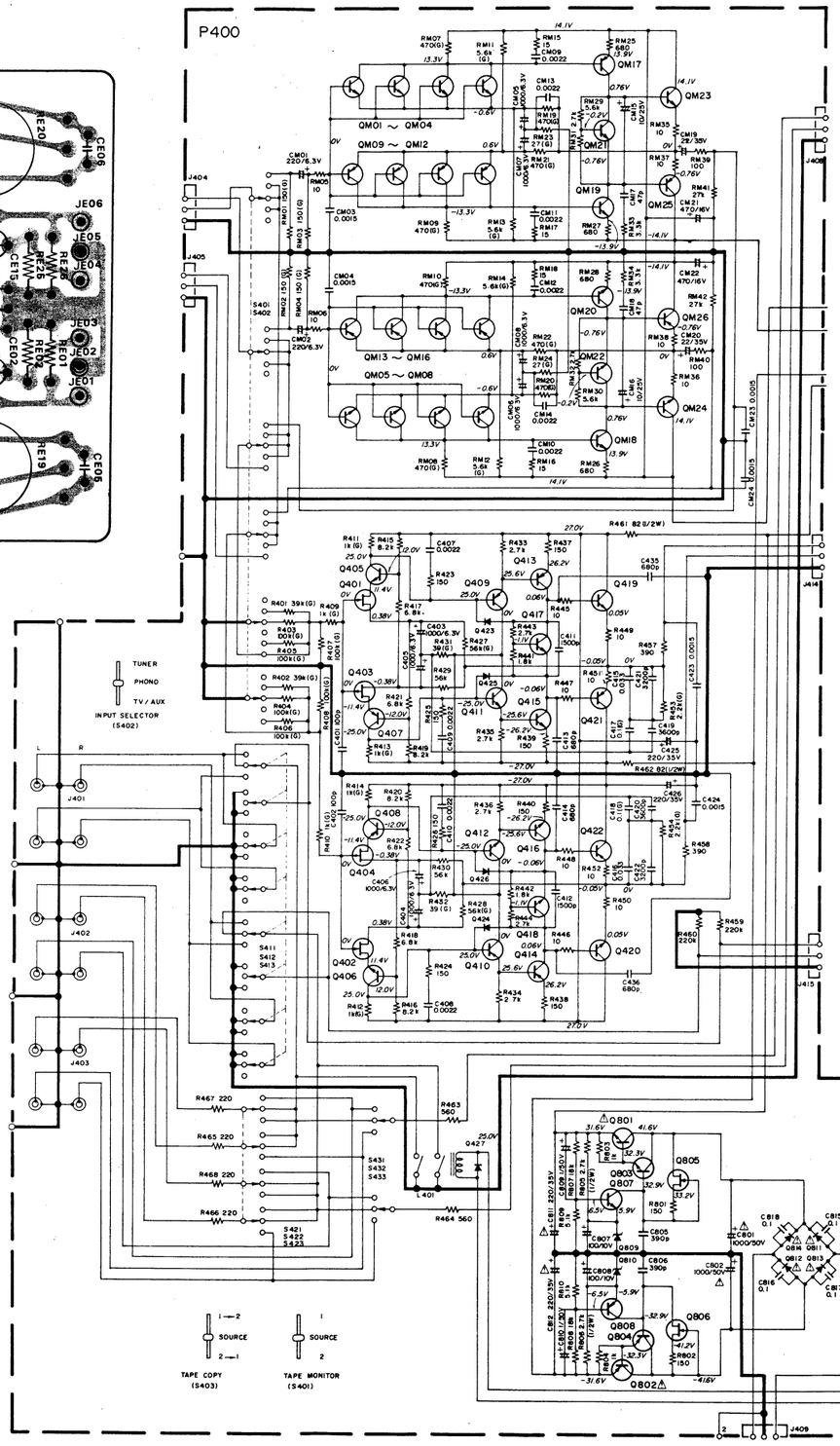
7.8 Tone Amp. Assembly (PE01) Schematic Diagram and Component Locations



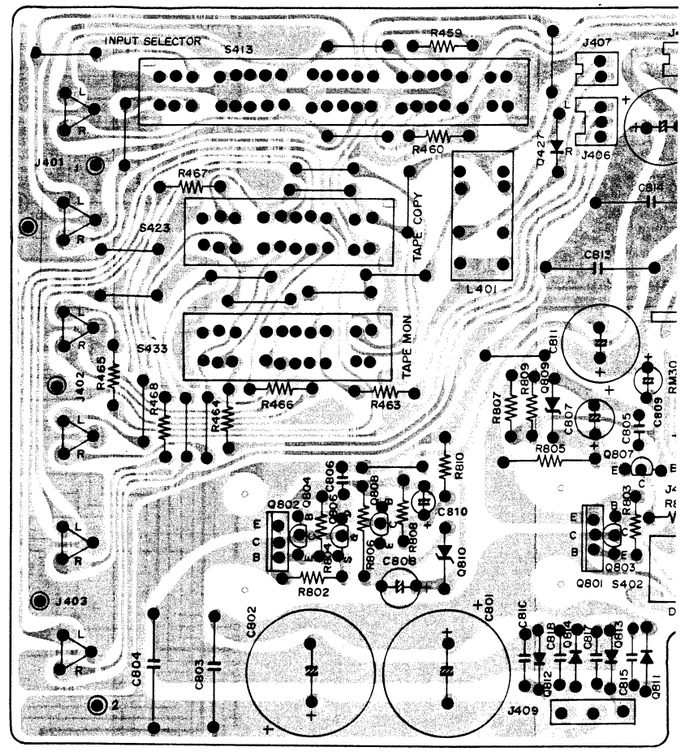
7.9 Tone On-Off Assembly (PS00) Schematic Diagram and Component Locations



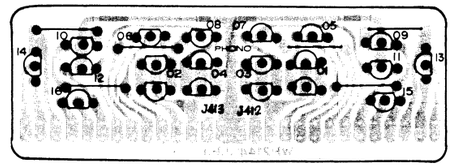




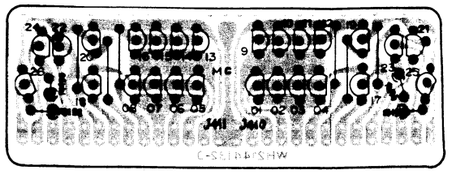
7.10 Pre-Amp. Assembly (P400) Schematic Diagram and Component Location



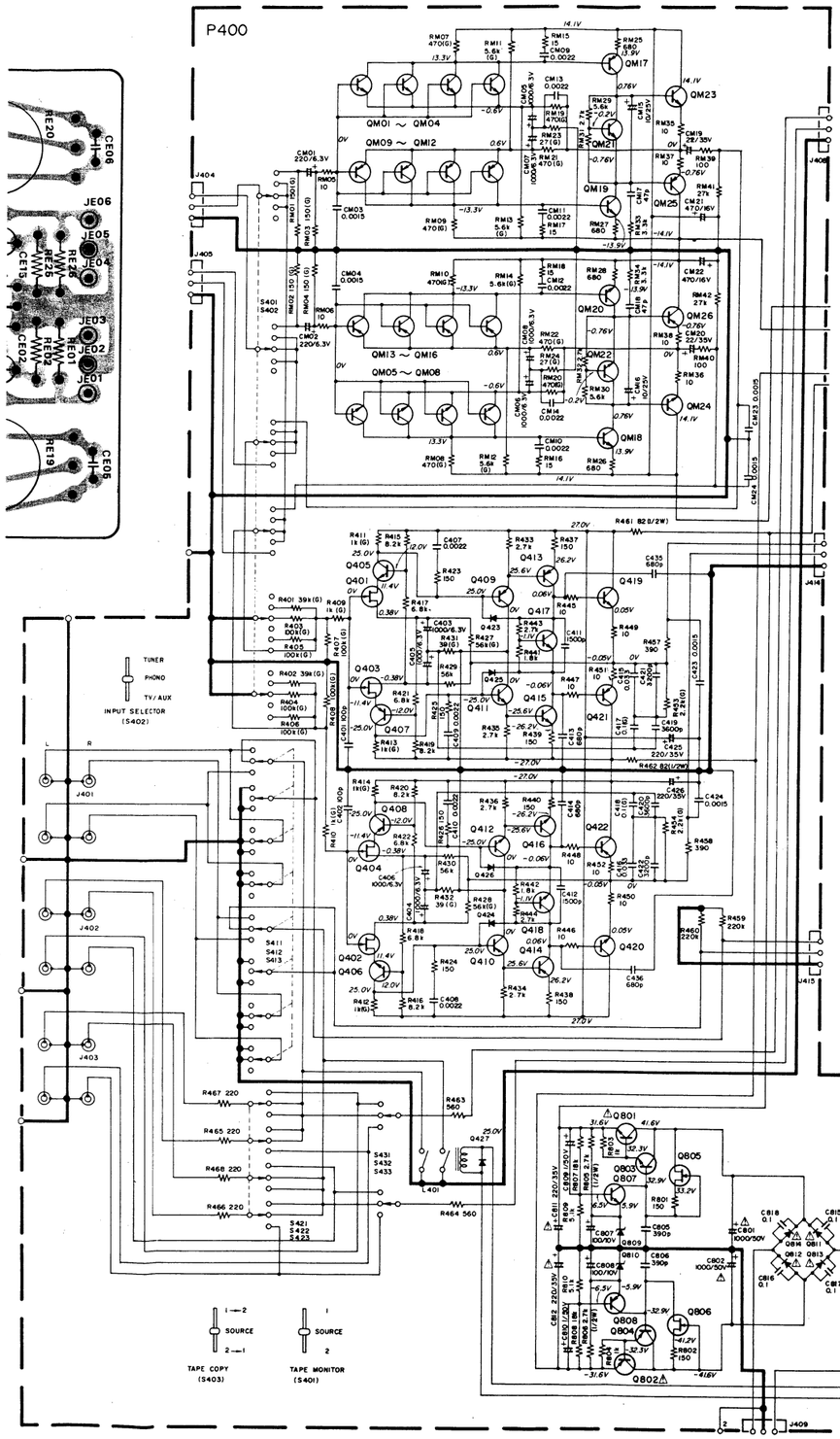
7.11 Transistor Block Assembly (P401) Schematic Diagram and Component Locations

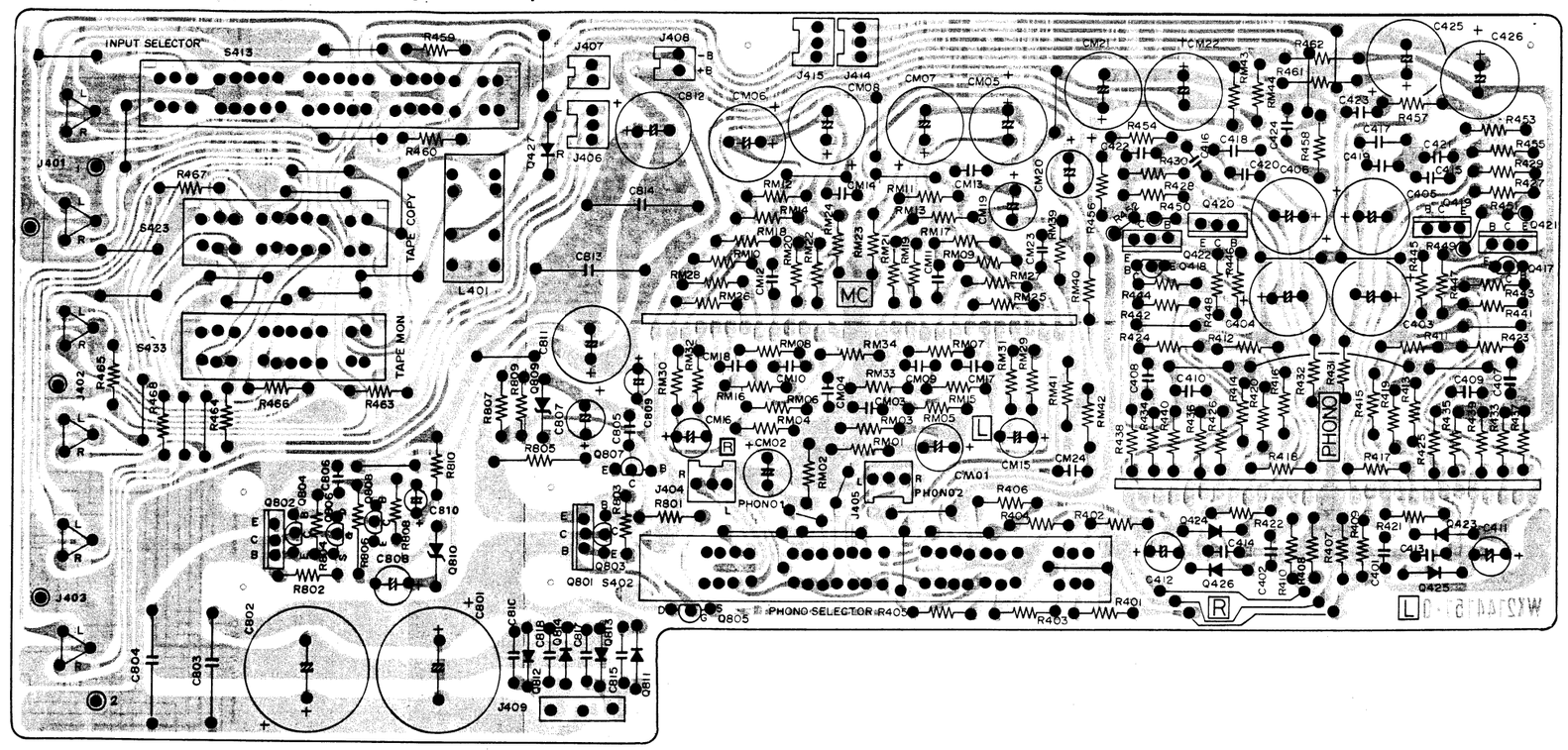


7.12 MC Transistor Block Assembly (PM01) Schematic Diagram and Component Locations

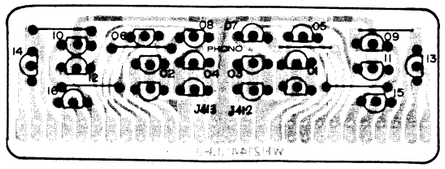


7.10 Pre-Amp. Assembly (P400) Schematic Diagram and Component Locations

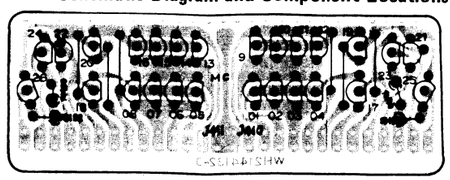




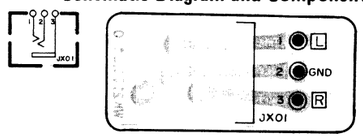
7.11 Transistor Block Assembly (P401) Schematic Diagram and Component Locations



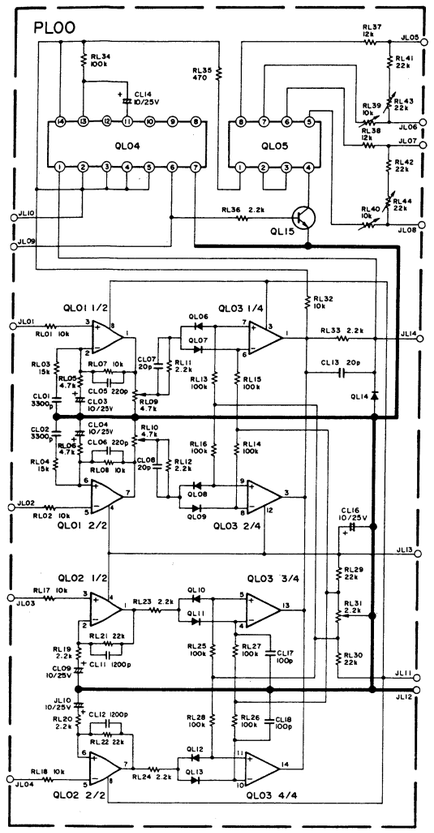
7.12 MC Transistor Block Assembly (PM01) Schematic Diagram and Component Locations

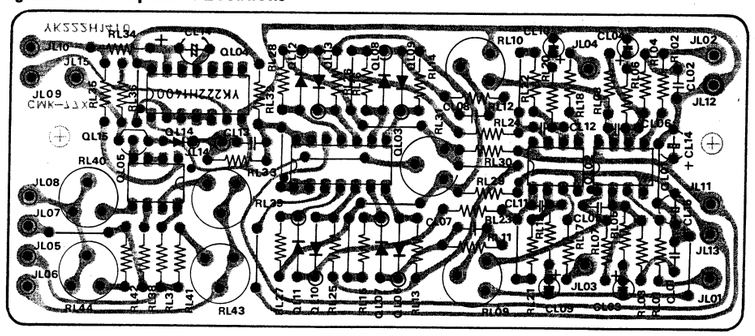


7.13 Head Phone Assembly (PX00) Schematic Diagram and Component Locations

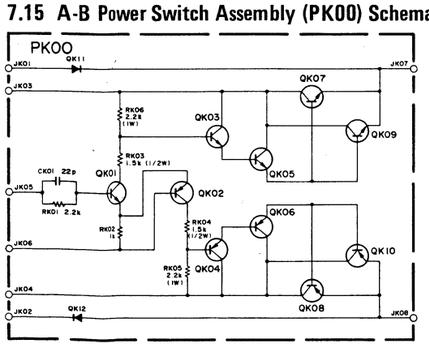


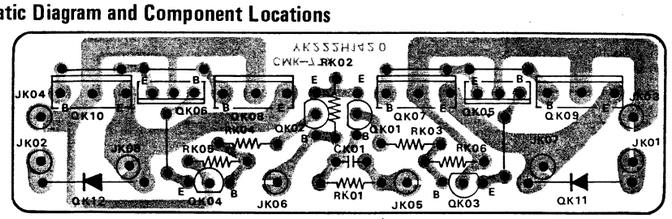
7.14 A-B Detector Assembly (PL00) Schematic Diagram and Component Locations



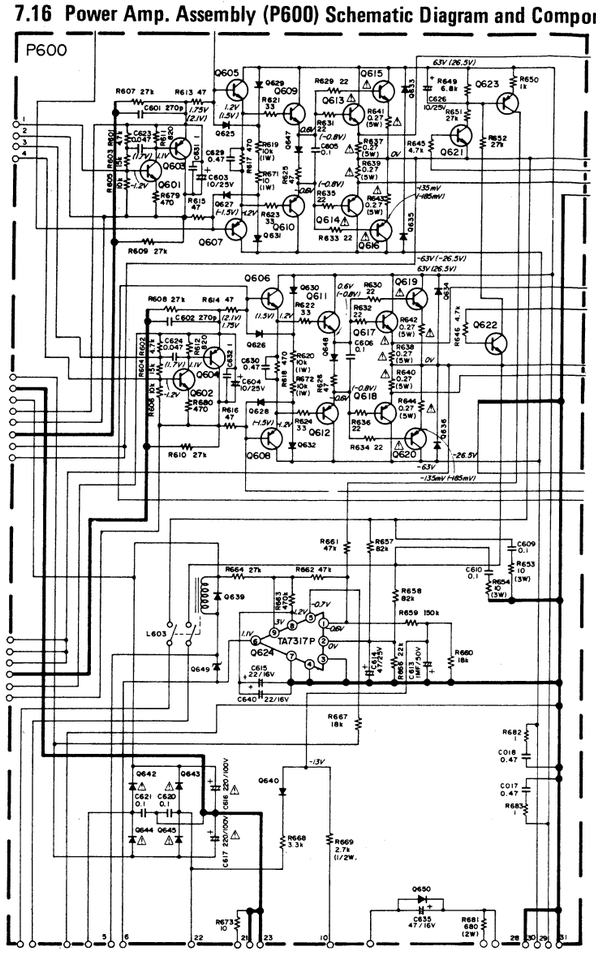


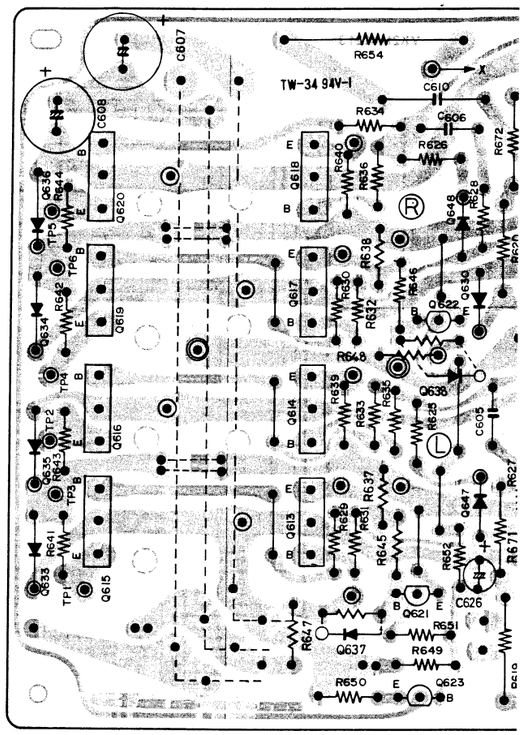
7.15 A-B Power Switch Assembly (PK00) Schematic Diagram and Component Locations



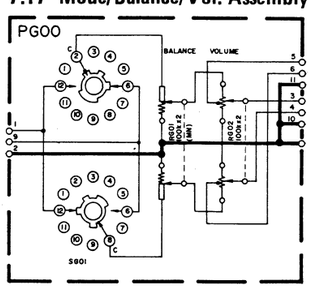


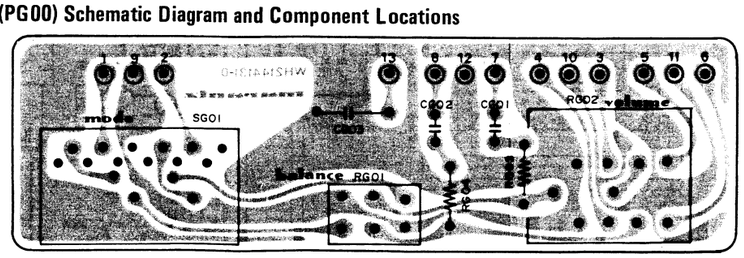
7.16 Power Amp. Assembly (P600) Schematic Diagram and Component Locations

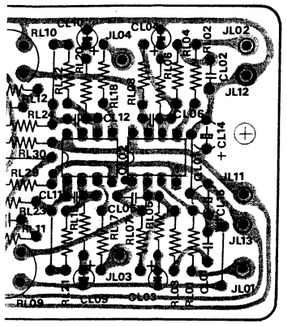




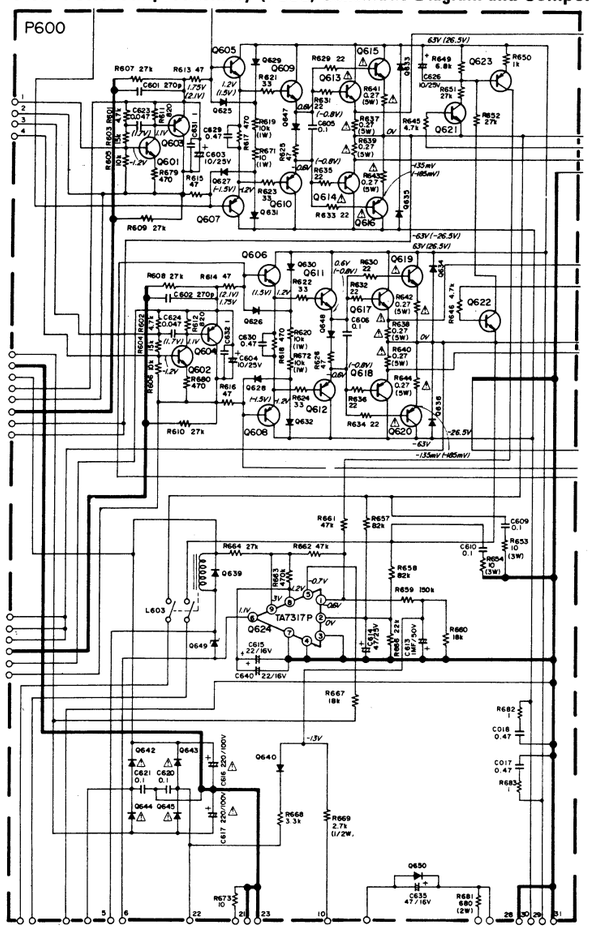
7.17 Mode/Balance/Vol. Assembly (PG00) Schematic Diagram and Component Locations

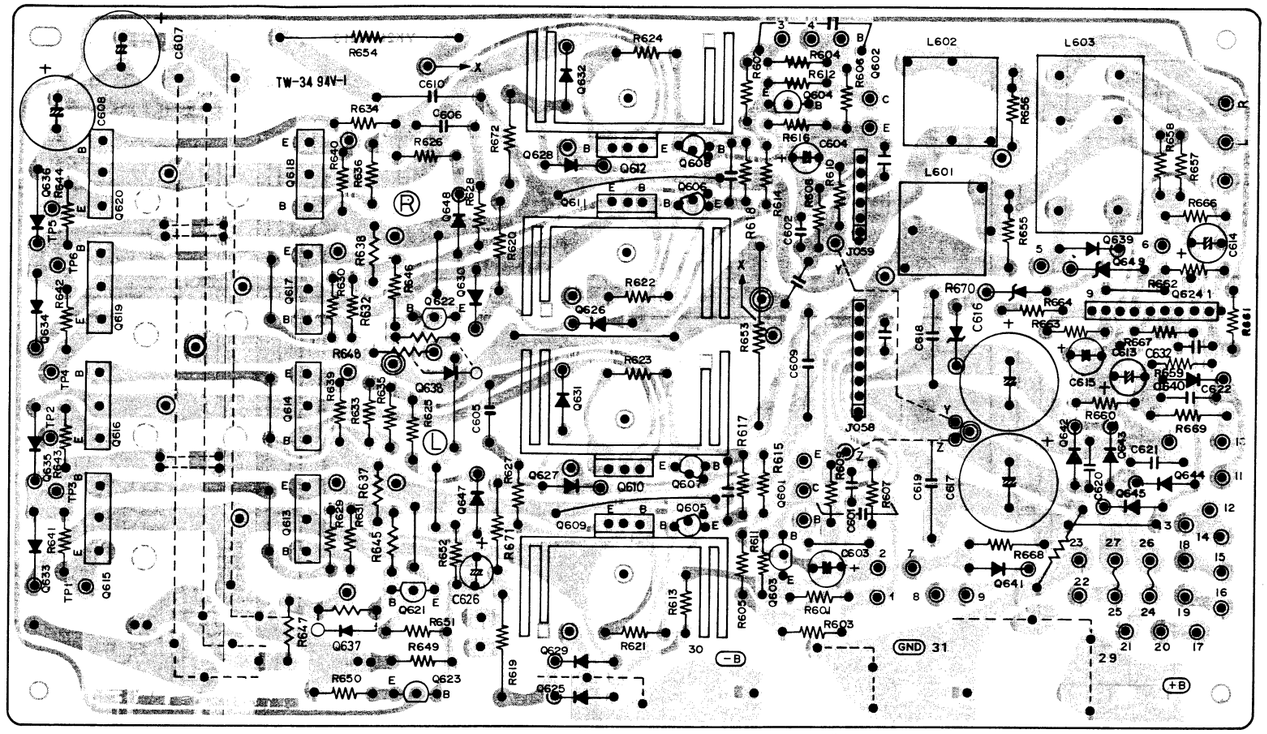


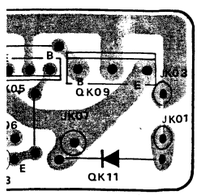




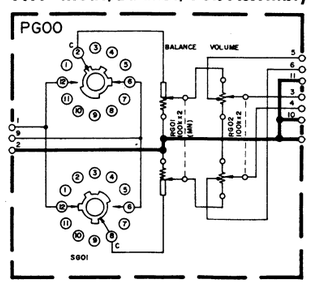
7.16 Power Amp. Assembly (P600) Schematic Diagram and Component Locations

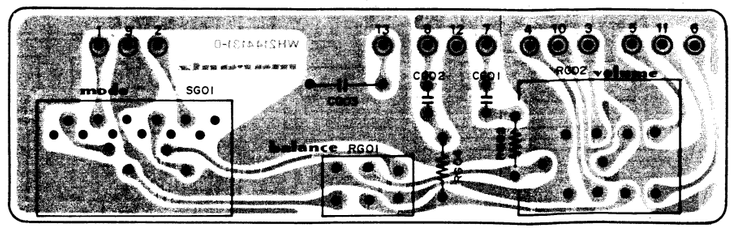




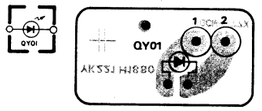


7.17 Mode/Balance/Vol. Assembly (PG00) Schematic Diagram and Component Locations

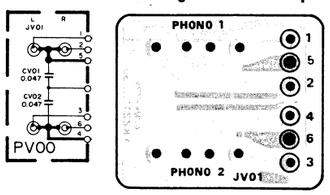




7.18 L.E.D. Power Ind. Assembly (PY00) Schematic Diagram and Component Locations

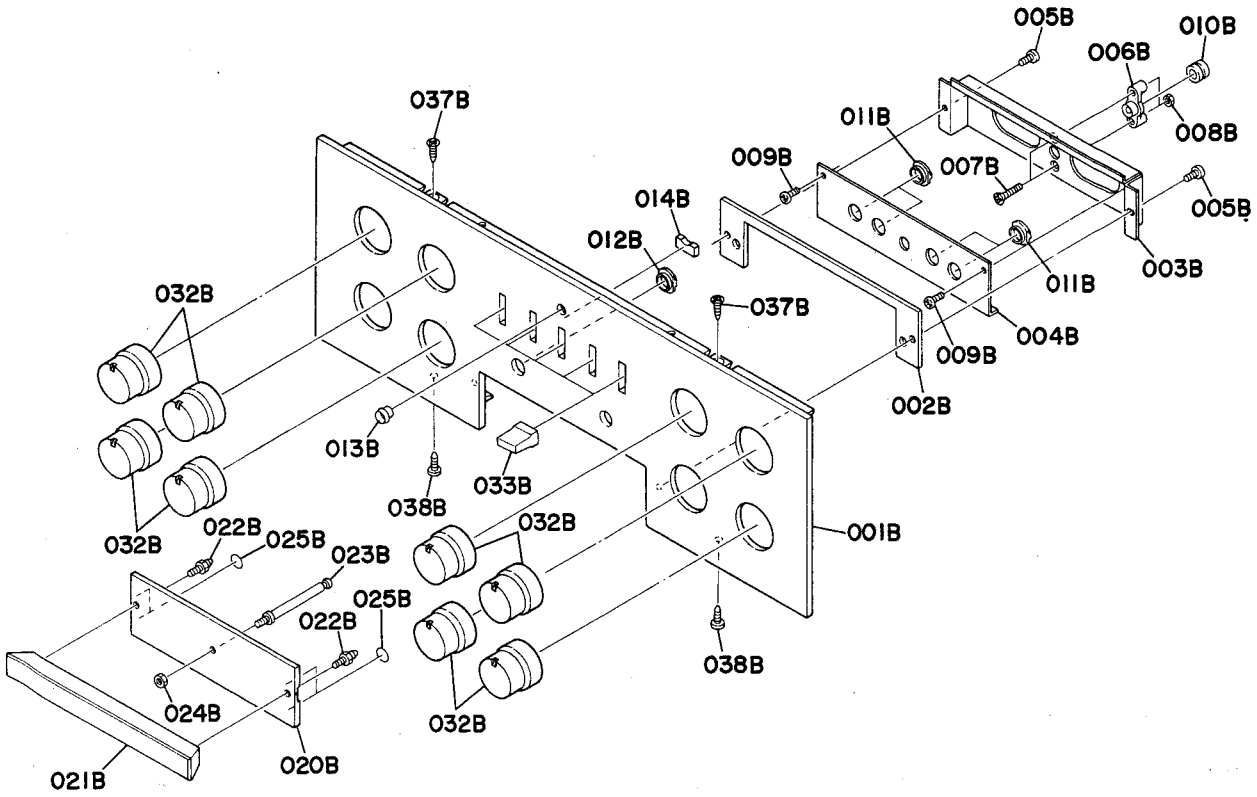


7.19 Phone Input Assembly (PV00) Schematic Diagram and Component Locations



8. EXPLODED VIEW AND PARTS LIST

- [C01-99] Front Panel

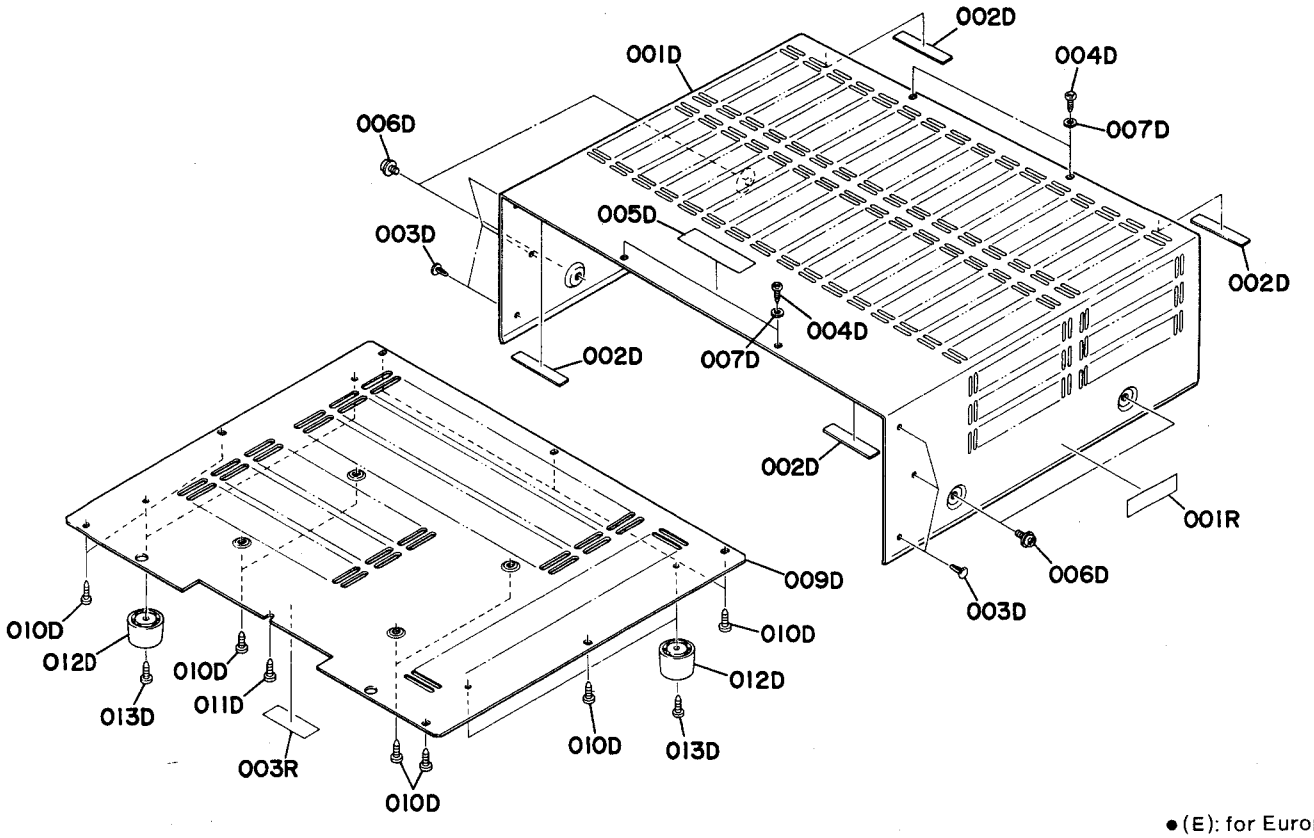


- (E): for Europe
- (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
A	1	1	221H063400	Front Panel Assembly
001B	1	1	221H063010	Escutcheon, Front Panel
002B	1	1	2461063030	Escutcheon, Pocket Frame
003B	1	1	2144160020	Bracket
004B	1	1	221H063020	Escutcheon, Pocket Panel
005B	2	2	51060305A9	P.H.M. Screw P3 x 5
006B	1	1	2461271010	Holder
007B	2	2	51042610A0	F.H.M. Screw F2.6 x 10
008B	2	2	53112603A0	Hexagon Nut
009B	2	2	51100204E0	B.H.M. Screw B2 x 4
010B	1	1	1143259010	Bushing, Pin Holder
011B	4	4	2978259110	Bushing, Push Switch
012B	1	1	2978259010	Bushing, Power Switch
013B	1	1	2462259010	Bushing, LED

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
B	1	1	2461063440	Pocket Cover Assembly
020B	1	1	2461063050	Escutcheon, Pocket Cover
021B	1	1	2461253210	Handle
022B	2	2	2461254010	Pin
023B	1	1	2461254020	Pin
024B	1	1	53110303E9	Hexagon Nut
025B	4	4	2461107020	Sheet
014B	1	1	2112053030	Cover
032B	8	8	227H154010	Knob
033B	5	5	2144154010	Knob, Lever Switch
037B	2	2	51500306B0	F.H. Tapped Screw F3 x 6
038B	2	2	51280308U0	B.H. Tapped Screw B3 x 8

● [C02-99] Top Cover

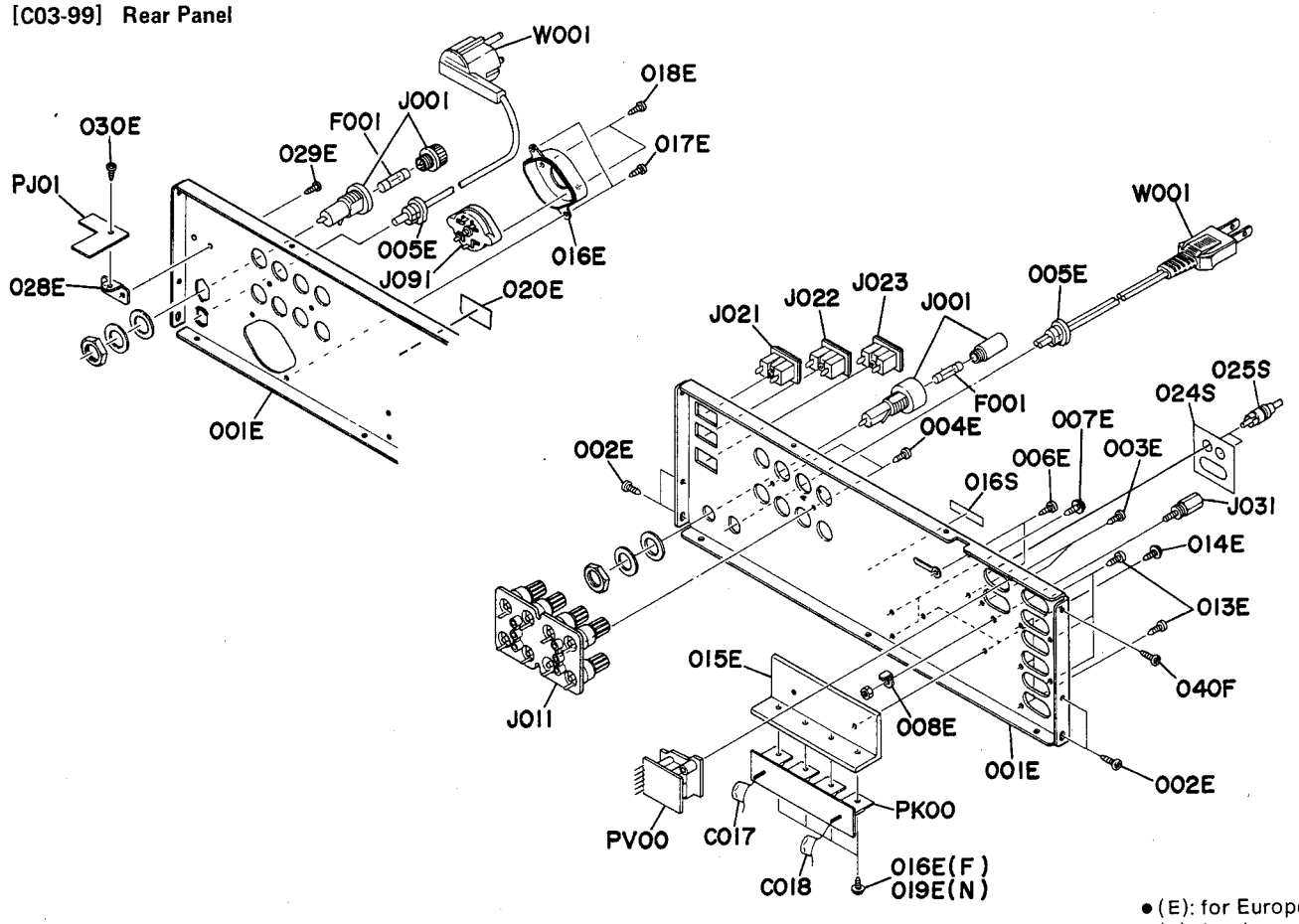


● (E): for Europe
● (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION	
001D	1	1	2461257010	Lid, Top Cover	
002D	4	4	2965118010	Spacer	
003D	6	6	2991259110	Bushing	
004D	4	4	5126030820	Tapped Screw	3 x 8
005D	1		222H861020	Label	
005D		1	222H861010	Label	
006D	4	4	5148040629	F. Washer Screw	4 x 6
007D	4	4	59030805S0	Washer	

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION	
009D	1	1	2144257010	Lid, Bottom Cover	
010D	11	11	51280410U0	B.H. Tapped Screw	B4 x 10
011D	1	1	51280406U0	B.H. Tapped Screw	B4 x 6
012D	4	4	2759057010	Leg	
013D	4		51570410U0	P. Taptite Screw	P4 x 10
013D		4	51570410S0	P.Taptite Screw	P4 x 10
001R	1		2911861140	Label	
003R	1		2911861110	Label	

● [C03-99] Rear Panel

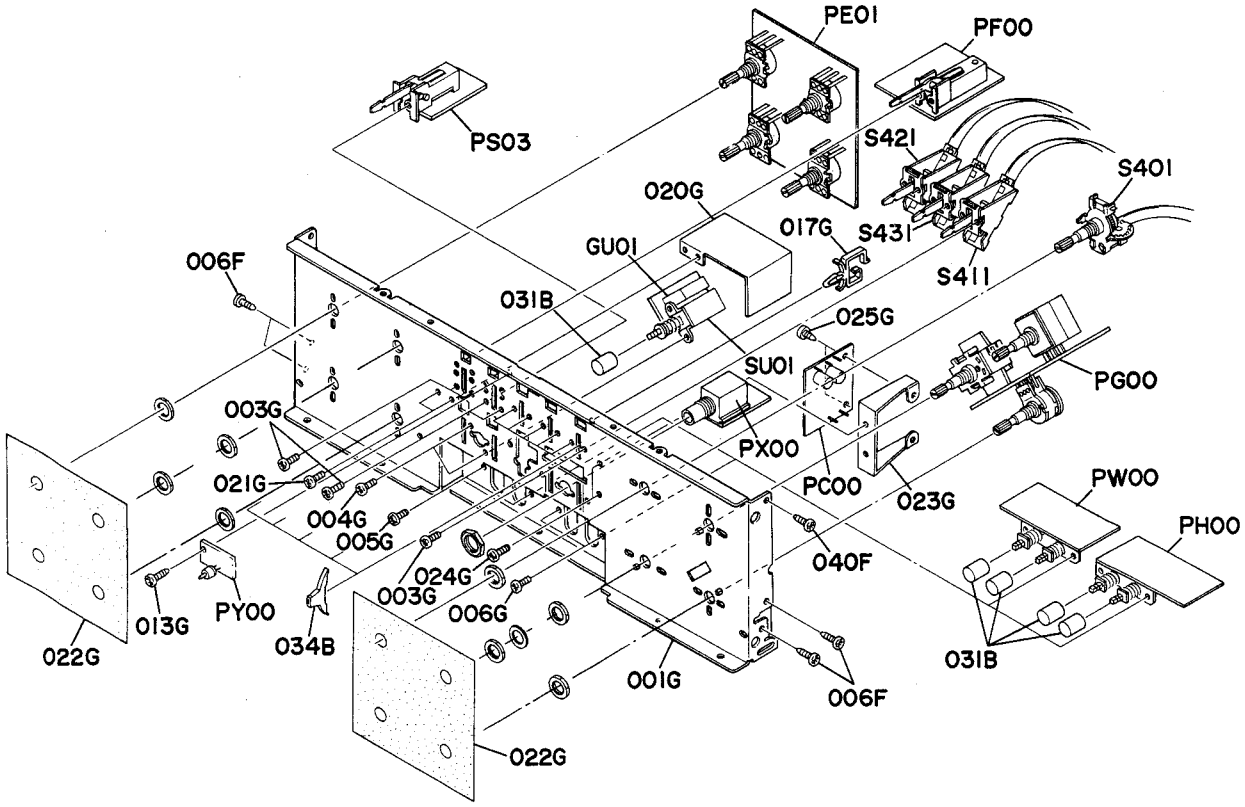


● (E): for Europe
● (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
001E	1		221H160220	Bracket, Rear Panel
001E		1	221H160210	Bracket, Rear Panel
002E	4	4	51100308S9	B.H.M. Screw B3 x 8
003E	2	2	51280308U0	B.H. Tapped Screw B3 x 8
004E	2	2	51280308U0	B.H. Tapped Screw B3 x 8
005E	1		1455259040	Bushing
005E		1	1455259090	Bushing
006E	2	2	51280308U0	B.H. Tapped Screw B3 x 8
007E	2	2	51260308Z0	B.T. Screw B3 x 8
008E	1	1	62040029W0	Lug
013E	6	6	51280308U0	B.H. Tapped Screw B3 x 8
014E	2	2	51260308Z0	B.T. Screw B3 x 8
015E	1	1	221H267010	Heatsink
016E	1		201H053030	Cover, Voltage Selector
016E		4	5178312Z0	Fin Neck B.T. Screw B3 x 8
017E	2		51280308U0	B.H. Tapped Screw B3 x 8
018E	2		51280310U0	B.T. Screw B3 x 10
019E	4		5178312Z0	Fin Neck B.T. Screw B3 x 8
020E	1		4581861010	Label
028E	1		404H160030	Bracket
029E	1		51280308U0	B.H. Tapped Screw B3 x 8
030E	1		51280308B0	B.H. Tapped Screw B3 x 8
040F	1	1	51280308B0	B.H. Tapped Screw B3 x 8
016S	1	1	2112265010	Indicator

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
C017	1	1	DF17474510	Film Cap. 0.47μF ±20%
C018	1	1	DF17474510	Film Cap. 0.47μF ±20%
⚠F001	1		FS10400600	Fuse, 4A
⚠F001		1	FS10800600	Fuse, 8A
⚠J001	1		YJ08000290	Jack, Fuse Holder
⚠J001		1	YJ08000300	Jack, Fuse Holder
J011	1	1	YT01080030	Terminal, Speaker System
⚠J021		1	YJ04000950	Jack, AC Outlet
⚠J022		1	YJ04000950	Jack, AC Outlet
⚠J023		1	YJ04000950	Jack, AC Outlet
J031	1	1	YT01010050	Terminal, GND
⚠J091	1		BY05080010	Voltage Selector
⚠W001	1		YC01800220	A.C. Power Cord
⚠W001		1	YC02400180	A.C. Power Cord
024S	1	1	2147863010	Hang Tag
025S	2	2	YQ01000020	Shote Plug

● [P01-99] Front Chassis and General Parts

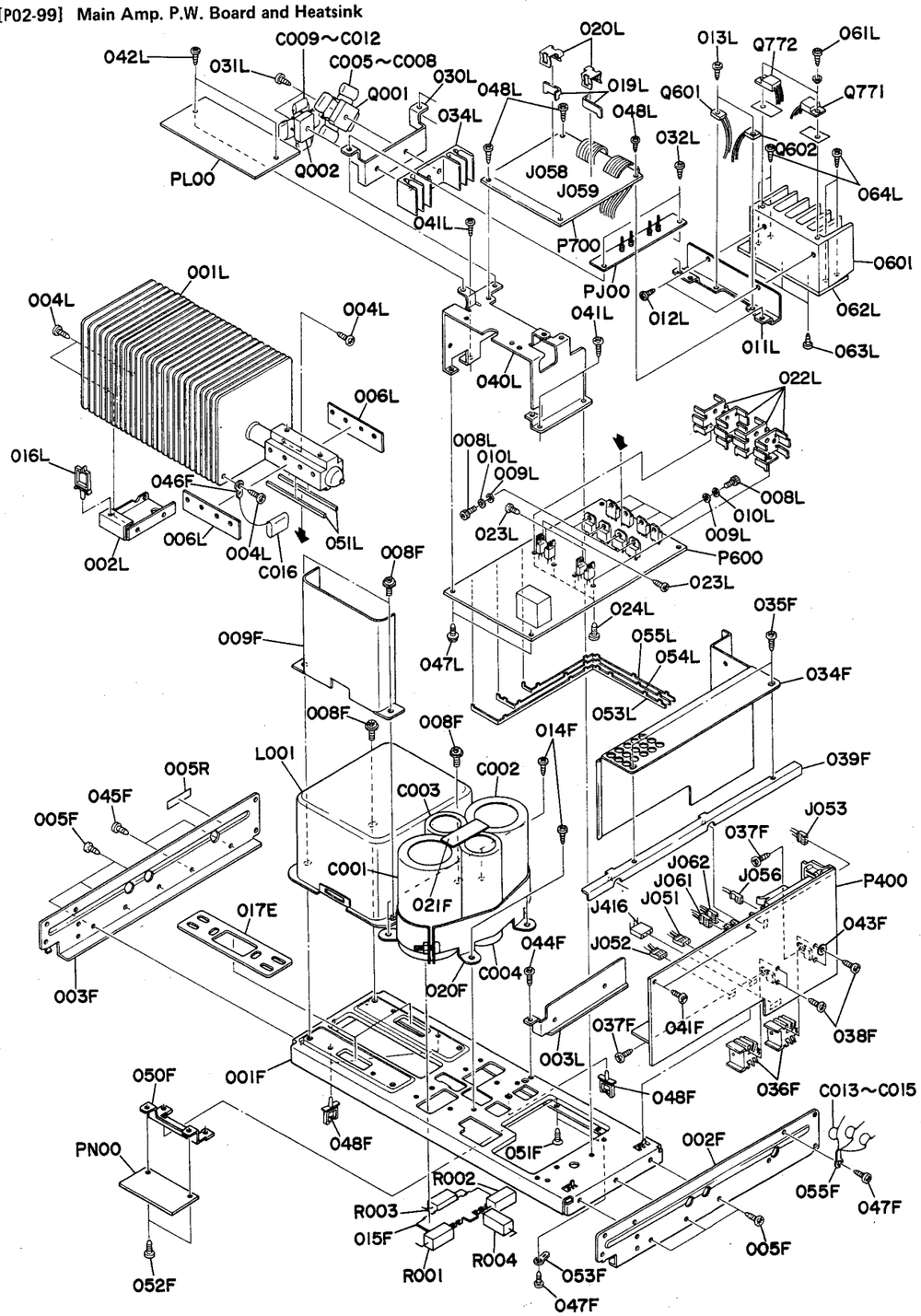


● (E): for Europe
● (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
031B	5	5	2970154630	Knob, Push Switch
034B	5	5	2144259110	Bushing, Lever Switch
006F	4	4	51260308Z0	B.T. Screw B3 x 8
040F	1	1	5128030880	B.H. Tapped Screw B3 x 8
001G	1	1	2144160010	Bracket, Front Chassis
003G	10	10	51100306A9	B.H.M. Screw B3 x 6
004G	2	2	51100306A9	B.H.M. Screw B3 x 6
005G	2	2	51100306A9	B.H.M. Screw B3 x 6
006G	2	2	51100306A9	B.H.M. Screw B3 x 6
013G	2	2	5128030880	B.H. Tapped Screw B3 x 8
017G	1	1	2129005010	Clamper
020G	1	1	2144109020	Shield
021G	2	2	51100306A9	B.H.M. Screw B3 x 6
022G	2	2	223H303010	Mask
023G	1	1	403H160040	Bracket
024G	2	2	5128030880	B.H. Tapped Screw B3 x 8
025G	2	2	5128030880	B.H. Tapped Screw B3 x 8

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
S401	1	1	SR00050110	Rotary Switch, Phone Selector
S411	1	1	SC00030010	Switch, Input Selector
S421	1	1	SC00030010	Switch, Tape Copy
S431	1	1	SC00030010	Switch, Tape Monitor
⚠SU01	1		SP01010410	Push Switch Power
⚠SU01		1	SP01010540	Push Switch Power
⚠GU01	1		DK18103840	Ceramic 0.01μF
⚠GU01		1	BF10400030	Cap. Comp. 0.1μF +120Ω

● [P02-99] Main Amp. P.W. Board and Heatsink

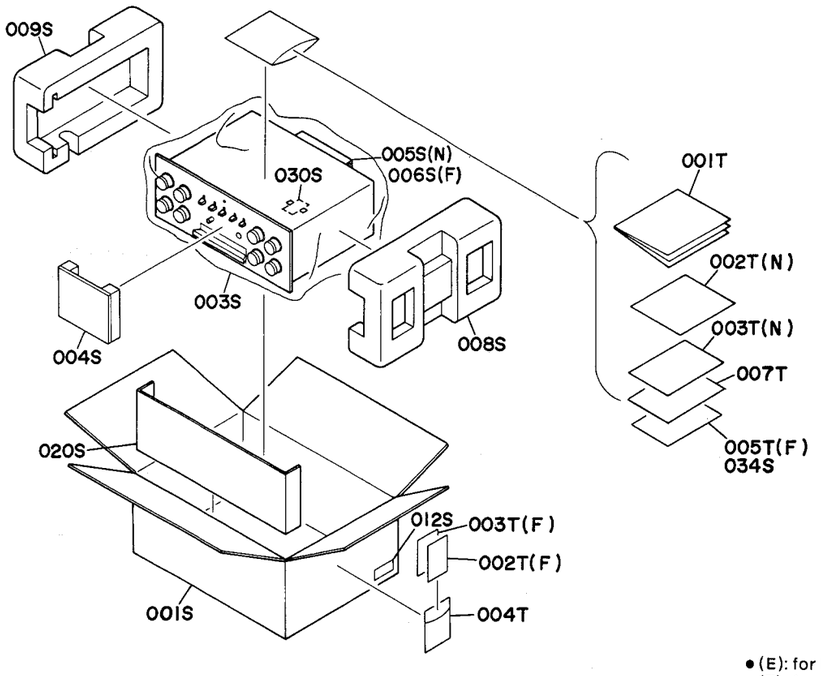


● (E): for Europe
● (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION	
001F	1	1	2144105010	Chassis, Center	
002F	1	1	2979105020	Chassis, Side (R)	
003F	1	1	2979105030	Chassis, Side (L)	
005F	6	6	51260408Z0	B.T. Screw	B4 x 8
008F	4	4	51480406Z9	F. Washer Screw	F4 x 6
009F	1	1	2144109030	Shield	
014F	4	4	51280308U0	B.H. Tapped Screw	B3 x 8
015F	1	1	221H123010	Contactor	
020F	1	1	221H160010	Bracket	
021F	1	1	221H067010	Cap.	
034F	1	1	2144109010	Shield	
035F	2	2	51280308U0	B.H. Tapped Screw	B3 x 8
036F	2	2	2144267030	Heatsink	
037F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
038F	4	4	51300308B0	P.H. Tapped Screw	P3 x 8
039F	1	1	2144160080	Bracket	
041F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
043F	1	1	5903080550	Washer	
044F	1	1	51260308Z0	B.T. Screw	B3 x 8
045F	2	2	51260308Z0	B.T. Screw	B3 x 8
046F	1	1	62030039W0	Lug	
047F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
048F	3	3	2129005010	Clamper	
050F	1	1	2144160090	Bracket	
051F	2	2	51500308B0	F.H. Taptite Screw	F3 x 8
052F	2	2	51280306B0	B.H. Tapped Screw	B3 x 6
053F	1	1	62030039W0	Lug	
055F	1	1	62030049W0	Lug	
001L	1	1	222H267020	Heatsink	
002L	1	1	2144160040	Bracket	
003L	1	1	2144160050	Bracket	
004L	4	4	51260306Z0	B.T. Screw	B3 x 6
006L	2	2	201H120010	Insulator	
008L	8	8	52730310Z9	H.S. Head Bolt	H3 x 10
009L	8	8	54020301E0	Flat Washer, P.	
010L	8	8	54040302N0	Spring Washer	
011L	1	1	222H160030	Bracket	
012L	2	3	51280308Z0	B.H. Tapped Screw	B3 x 8
013L	2	2	51280308Z0	B.H. Tapped Screw	B3 x 8
016L	1	1	2886005020	Clamper	
019L	2	2	2990267080	Heatsink	
020L	2	2	2990115010	Spring	
022L	4	4	2212267020	Heatsink	
023L	4	4	51280308B0	B.H. Tapped Screw	B3 x 8
024L	4	4	51280308B0	B.H. Tapped Screw	B3 x 8
030L	1	1	2144267020	Heatsink	
031L	2	2	51280315B0	B.H. Tapped Screw	B3 x 15
032L	2	2	51260308Z0	B.T. Screw	B3 x 8
034L	1	1	2144267040	Heatsink	
040L	1	1	2144160060	Bracket	
041L	3	3	51280308Z0	B.H. Tapped Screw	B3 x 8
042L	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
047L	2	2	51260308B0	B.T. Screw	B3 x 8
048L	4	4	51280308U0	B.H. Tapped Screw	B3 x 8
051L	2	2	2144118010	Spacer	
053L	1	1	2144123040	Contactor	

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION	
054L	1	1	2144123050	Contactor	
055L	1	1	2144123060	Contactor	
060L	1	1	222H267030	Heatsink	
061L	2	2	51100308Z9	B.H. Tapped Screw	B3 x 8
062L	1	1	222H267040	Heatsink	
063L	3	3	51280312Z0	B.H. Tapped Screw	B3 x 12
064L	4	4	51280312Z0	B.H. Tapped Screw	B3 x 12
017E		2	223H120010	Insulator	
005R	1		2882861020	Label	
⚠C001	1	1	EC22907520	Elect Cap. 22000μF	75V
⚠C002	1	1	EC22907520	Elect Cap. 22000μF	75V
⚠C003	1	1	EC20903510	Elect Cap. 20000μF	35V
⚠C004	1	1	EC20903510	Elect Cap. 20000μF	35V
C005	1	1	DF17104520	Film Cap. 0.1μF ±20%	
C006	1	1	DF17104520	Film Cap. 0.1μF ±20%	
C007	1	1	DF17104520	Film Cap. 0.1μF ±20%	
C008	1	1	DF17104520	Film Cap. 0.1μF ±20%	
C009	1	1	DF17223540	Film Cap. 0.022μF ±20%	
C010	1	1	DF17223540	Film Cap. 0 022μF ±20%	
C011	1	1	DF17223540	Film Cap. 0.022μF ±20%	
C012	1	1	DF17223540	Film Cap. 0 022μF ±20%	
C013	1	1	DK18473320	Ceramic Cap. 0.047μF	
C014	1	1	DK18473320	Ceramic Cap. 0.047μF	
C015	1	1	DK18473320	Ceramic Cap. 0.047μF	
C016	1	1	DF16103350	Film 0.01μF ±10%	
J051	1	1	YJ06002200	Jack, (3P)	
J052	1	1	YJ06002210	Jack, (3P)	
J053	1	1	YJ06002220	Jack, (3P)	
J056	1	1	YJ06002240	Jack, (2P)	
J058	1	1	YU08200260	Jumper Lead, (8P)	
J059	1	1	YU06200260	Jumper Lead, (6P)	
J061	1	1	YJ06002300	Jack, (3P)	
J062	1	1	YJ06002310	Jack, (3P)	
J416	1	1	YJ06001240	Jack, (3P)	
⚠L001	1		TS60508100	Power Transformer	
⚠L001		1	TS60508090	Power Transformer	
⚠Q001	1	1	HD20004290	Diode S5VB-20	
⚠Q002	1	1	HD20022290	Diode S4VB-20	
⚠R001	1	1	GS10222030	Resistor 2.2KΩ ±10%	3W
⚠R002	1	1	GS10222030	Resistor 2.2KΩ ±10%	3W
⚠R003	1	1	GS10222030	Resistor 2.2KΩ ±10%	3W
⚠R004	1	1	GS10222030	Resistor 2.2KΩ ±10%	3W

- [H01-99] Packing Materials



- (E): for Europe
- (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
001S	1	1	221H801010	Packing Case
003S	1	1	9090909030	Polyethylene Sheet
004S	1	1	2144809020	Cushion
005S	1		2864804010	Sleeve
006S		1	2864804010	Sleeve
008S	1	1	2139809010	Cushion, (R)
009S	1	1	2139809020	Cushion, (L)
012S	2		9526019060	Serial No. Card
012S		2	9526019040	Serial No. Card
020S	1	1	2144807010	Reinforcing
030S	1		2731821010	Silicagel
034S	1		2275851370	Instructions, Flysheet

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
001T	1		221H851310	Instructions
001T		1	221H851110	Instructions
002T	1		221H851320	Instructions, Spec
002T		1	9631000130	Guarantee Card
003T	1		221H856010	Circuit Diagram
004T		1	128T854010	Guarantee Card
007T		1	9611000030	User's Card

9. ELECTRICAL PARTS LIST

- (E): for Europe
- (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				P400-PRE-AMP. CIRCUIT BOARD
P400	1	1	YK21441510	P.W. Board, Pre-Amp. (Phono MM. MC AMP.)
	1		ZZ21448510	P.W. Board Assembly
				P400-CAPACITORS
CM01	1	1	EQ22700610	Elect 220μF 6.3V
CM02	1	1	EQ22700610	Elect 220μF 6.3V
CM03	1	1	DF16152510	Film 0.0015μF ±10%
CM04	1	1	DF16152510	Film 0.0015μF ±10%
CM05	1	1	EA10800690	Elect 1000μF 6.3V
CM06	1	1	EA10800690	Elect 1000μF 6.3V
CM07	1	1	EA10800690	Elect 1000μF 6.3V
CM08	1	1	EA10800690	Elect 1000μF 6.3V
CM09	1	1	DF16222510	Film 0.0022μF ±10%
CM10	1	1	DF16222510	Film 0.0022μF ±10%
CM11	1	1	DF16222510	Film 0.0022μF ±10%
CM12	1	1	DF16222510	Film 0.0022μF ±10%
CM13	1	1	DF16222510	Film 0.0022μF ±10%
CM14	1	1	DF16222510	Film 0.0022μF ±10%
CM15	1	1	EA10602530	Elect 10μF 25V
CM16	1	1	EA10602530	Elect 10μF 25V
CM17	1	1	DF35470520	Mica. 47pF ±5%
CM18	1	1	DF35470520	Mica. 47pF ±5%
CM19	1	1	EQ22602520	Elect 22μF 25V
CM20	1	1	EQ22602520	Elect 22μF 25V
CM21	1	1	EA47701690	Elect 470μF 16V
CM22	1	1	EA47701690	Elect 470μF 16V
CM23	1	1	DF16152510	Film 0.0015μF ±10%
CM24	1	1	DF16152510	Film 0.0015μF ±10%
C401	1	1	DF35101520	Film 100pF ±5%
C402	1	1	DF35101520	Film 100pF ±5%
C403	1	1	EA10800690	Elect 1000μF 6.3V
C404	1	1	EA10800690	Elect 1000μF 6.3V
C405	1	1	EA10800690	Elect 1000μF 6.3V
C406	1	1	EA10800690	Elect 1000μF 6.3V
C407	1	1	DF16222510	Film 0.0022μF ±10%
C408	1	1	DF16222510	Film 0.0022μF ±10%
C409	1	1	DF16222510	Film 0.0022μF ±10%
C410	1	1	DF16222510	Film 0.0022μF ±10%
C411	1	1	DF16152300	Film 1500pF ±10%
C412	1	1	DF16152300	Film 1500pF ±10%
C413	1	1	DF55681090	Film 680pF ±5%
C414	1	1	DF55681090	Film 680pF ±5%
C415	1	1	DF74333010	Film 0.033μF ±2%
C416	1	1	DF74333010	Film 0.033μF ±2%
C417	1	1	DF74104010	Film 0.1μF ±2%
C418	1	1	DF74104010	Film 0.1μF ±2%
C419	1	1	DF74362510	Film 3600pF ±2%
C420	1	1	DF74362510	Film 3600pF ±2%
C421	1	1	DF64272010	Film 2700pF ±2%
C422	1	1	DF64272010	Film 2700pF ±2%
C423	1	1	DF16152510	Film 1500pF ±10%
C424	1	1	DF16152510	Film 1500pF ±10%
C425	1	1	EA22703590	Elect 220μF 35V
C426	1	1	EA22703590	Elect 220μF 35V
C435	1	1	DF55681090	Film 680pF ±5%
C436	1	1	DF55681090	Film 680pF ±5%
C801	1	1	EB10805070	Elect 1000μF 50V
⚠C802	1	1	EB10805070	Elect 1000μF 50V
C805	1	1	DF55391090	Film 390pF ±5%
C806	1	1	DF55391090	Film 390pF ±5%
C807	1	1	EA10701030	Elect 100μF 10V
C808	1	1	EA10701030	Elect 100μF 10V
C809	1	1	EE10505010	Elect 1μF 50V
C810	1	1	EE10505010	Elect 1μF 50V
⚠C811	1	1	EA22703590	Elect 220μF 35V
⚠C812	1	1	EA22703590	Elect 220μF 35V
C815	1	1	DK18103510	Ceramic 0.01μF
C816	1	1	DK18103510	Ceramic 0.01μF
C817	1	1	DK18103510	Ceramic 0.01μF
C818	1	1	DK18103510	Ceramic 0.01μF
				P400-RESISTORS (All Resistors are ±5% and ¼W)
RM01	1	1	GM21415000	150Ω ±2%
RM02	1	1	GM21415000	150Ω ±2%
RM03	1	1	GM21415000	150Ω ±2%
RM04	1	1	GM21415000	150Ω ±2%
RM05	1	1	GD05010140	1Ω
RM06	1	1	GD05010140	1Ω
RM07	1	1	GM21447000	470Ω ±2%
RM08	1	1	GM21447000	470Ω ±2%
RM09	1	1	GM21447000	470Ω ±2%
RM10	1	1	GM21447000	470Ω ±2%
RM11	1	1	GM21456010	5.6KΩ ±2%
RM12	1	1	GM21456010	5.6KΩ ±2%
RM13	1	1	GM21456010	5.6KΩ ±2%
RM14	1	1	GM21456010	5.6KΩ ±2%
RM15	1	1	GD05150140	15Ω
RM16	1	1	GD05150140	15Ω
RM17	1	1	GD05150140	15Ω
RM18	1	1	GD05150140	15Ω
RM19	1	1	GM21447000	470Ω ±2%
RM20	1	1	GM21447000	470Ω ±2%
RM21	1	1	GM21447000	470Ω ±2%
RM22	1	1	GM21447000	470Ω ±2%
RM23	1	1	GM214270G0	27Ω ±2%
RM24	1	1	GM214270G0	27Ω ±2%
RM25	1	1	GD05680140	680Ω
RM26	1	1	GD05680140	680Ω
RM27	1	1	GD05680140	680Ω
RM28	1	1	GD05680140	680Ω
RM29	1	1	GD05562140	5.6KΩ
RM30	1	1	GD05562140	5.6KΩ
RM31	1	1	GD05272140	2.7KΩ
RM32	1	1	GD05272140	2.7KΩ
RM33	1	1	GD05332140	3.3KΩ
RM34	1	1	GD05332140	3.3KΩ
RM39	1	1	GD05101140	100Ω
RM40	1	1	GD05101140	100Ω
RM41	1	1	GD05273140	27KΩ
RM42	1	1	GD05273140	27KΩ
R401	1	1	GM21439020	39KΩ ±2%
R402	1	1	GM21439020	39KΩ ±2%
R403	1	1	GM21410030	100KΩ ±2%
R404	1	1	GM21410030	100KΩ ±2%
R405	1	1	GM21410030	100KΩ ±2%
R406	1	1	GM21410030	100KΩ ±2%
R407	1	1	GM21410030	100KΩ ±2%
R408	1	1	GM21410030	100KΩ ±2%
R409	1	1	GM21410010	1KΩ ±2%
R410	1	1	GM21410010	1KΩ ±2%

• (E): for Europe
• (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
R411	1	1	GM21410010	1KΩ ±2%
R412	1	1	GM21410010	1KΩ ±2%
R413	1	1	GM21410010	1KΩ ±2%
R414	1	1	GM21410010	1KΩ ±2%
R415	1	1	GD05822140	8.2KΩ
R416	1	1	GD05822140	8.2KΩ
R417	1	1	GD05682140	6.8KΩ
R418	1	1	GD05682140	6.8KΩ
R419	1	1	GD05822140	8.2KΩ
R420	1	1	GD05822140	8.2KΩ
R421	1	1	GD05682140	6.8KΩ
R422	1	1	GD05682140	6.8KΩ
R423	1	1	GD05151140	150Ω
R424	1	1	GD05151140	150Ω
R425	1	1	GD05151140	150Ω
R426	1	1	GD05151140	150Ω
R427	1	1	GM21456020	56KΩ ±2%
R428	1	1	GM21456020	56KΩ ±2%
R429	1	1	GM21456020	56KΩ ±2%
R430	1	1	GM21456020	56KΩ ±2%
R431	1	1	GM214390G0	39Ω ±2%
R432	1	1	GM214390G0	39Ω ±2%
R433	1	1	GD05272140	2.7KΩ
R434	1	1	GD05272140	2.7KΩ
R435	1	1	GD05272140	2.7KΩ
R436	1	1	GD05272140	2.7KΩ
R437	1	1	GD05151140	150Ω
R438	1	1	GD05151140	150Ω
R439	1	1	GD05151140	150Ω
R440	1	1	GD05151140	150Ω
R441	1	1	GD05182140	1.8KΩ
R442	1	1	GD05182140	1.8KΩ
R443	1	1	GD05272140	2.7KΩ
R444	1	1	GD05272140	2.7KΩ
R445	1	1	GD05100140	10Ω
R446	1	1	GD05100140	10Ω
R447	1	1	GD05100140	10Ω
R448	1	1	GD05100140	10Ω
R449	1	1	GF05100140	10Ω
R450	1	1	GF05100140	10Ω
R451	1	1	GF05100140	10Ω
R452	1	1	GF05100140	10Ω
R453	1	1	GM21422010	2.2KΩ ±2%
R454	1	1	GM21422010	2.2KΩ ±2%
R455	1	1	GM214680G0	68Ω ±2%
R456	1	1	GM214680G0	68Ω ±2%
R457	1	1	GD05391140	390Ω
R458	1	1	GD05391140	390Ω
R459	1	1	GD05224140	220KΩ
R460	1	1	GD05224140	220KΩ
R461	1	1	GG05820120	82Ω ½W
R462	1	1	GG05820120	82Ω ½W
R463	1	1	GD05561140	560Ω
R464	1	1	GD05561140	560Ω
R465	1	1	GD05221140	220Ω
R466	1	1	GD05221140	220Ω
R467	1	1	GD05221140	220Ω
R468	1	1	GD05221140	220Ω
R471	1	1	GD05222140	2.2KΩ
R472	1	1	GD05222140	2.2KΩ

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
R801	1	1	GD05151140	150Ω
R802	1	1	GD05151140	150Ω
R803	1	1	GD05102140	1KΩ
R804	1	1	GD05102140	1KΩ
R805	1	1	GG05272120	2.7KΩ ½W
R806	1	1	GG05272120	2.7KΩ ½W
R807	1	1	GD05183140	18KΩ
R808	1	1	GD05183140	18KΩ
R809	1	1	GM21448710	4.87KΩ ±2%
R810	1	1	GM21448710	4.87KΩ ±2%
				P400-SEMICONDUCTORS
Q417	1	1	HT323201F0	Transistor 2SC2320(F)
Q418	1	1	HT323201F0	Transistor 2SC2320(F)
Q419	1	1	HT325912B0	Transistor 2SC2591(Q or R)
Q420	1	1	HT325912B0	Transistor 2SC2591(Q or R)
Q421	1	1	HT111112B0	Transistor 2SA1111(Q or R)
Q422	1	1	HT111112B0	Transistor 2SA1111(Q or R)
Q423	1	1	HD20014010	Diode 1SS81
Q424	1	1	HD20014010	Diode 1SS81
Q425	1	1	HD20014010	Diode 1SS81
Q426	1	1	HD20014010	Diode 1SS81
Q427	1	1	HD20014010	Diode 1SS81
⚠Q801	1	1	HT325912B0	Transistor 2SC2591(Q or R)
⚠Q802	1	1	HT111112B0	Transistor 2SA1111(Q or R)
Q803	1	1	HT322402A0	Transistor 2SC2240(GR or BL)
Q804	1	1	HT109702A0	Transistor 2SA970(GR or BL)
Q805	1	1	HF200301C0	F.E.T. 2SK30A(Y)
Q806	1	1	HF200301C0	F.E.T. 2SK30A(Y)
Q807	1	1	HT317752D0	Transistor 2SC1775A(D or E)
Q808	1	1	HT108722D0	Transistor 2SA872A(D or E)
Q809	1	1	HD30008010	Zener HZ6B1L
Q810	1	1	HD30008010	Zener HZ6B1L
⚠Q811	1	1	HD20022030	Diode DSF-10C-BT
⚠Q812	1	1	HD20022030	Diode DSF-10C-BT
⚠Q813	1	1	HD20022030	Diode DSF-10C-BT
⚠Q814	1	1	HD20022030	Diode DSF-10C-BT
				P400-MISCELLANEOUS
J401	1	1	YT02040330	Terminal (4P) RCA
J402	1	1	YT02040330	Terminal (4P) RCA
J403	1	1	YT02040330	Terminal (4P) RCA
J404	1	1	YP01001030	Plug (3P)
J405	1	1	YP01001030	Plug (3P)
J406	1	1	YP01001030	Plug (3P)
J407	1	1	YP10001980	Plug (2P)
J408	1	1	YP10001980	Plug (2P)
J409	1	1	YP06001040	Plug (3P)
J414	1	1	YP01001030	Plug (3P)
J415	1	1	YP01001030	Plug (3P)
J416	1	1	YJ06001240	Jack (3P)
L401	1	1	LY20240160	Relay FRL-644D24/2BS
S401	1	1	SR00050110	Rotary Switch, Phono Selector
S402	1	1	SS06060030	Slide Switch Phono Selector
S411	1	1	SC00030010	Switch, Input Selector
S412	1	1	SB13070020	Switch Band, FLX
S413	1	1	SS08040020	Slide Switch 8-4 S Main
S421	1	1	SC00030010	Switch, Tape Copy
S422	1	1	SB13970010	Switch Band, FLX, Tape Copy
S423	1	1	SS04040040	Slide Switch 4-4 NS Main
S431	1	1	SC00030010	Switch, Tape Monitor
S432	1	1	SB13670010	Switch Band, FLX, Tape Monitor
S433	1	1	SS04040040	Slide Switch 4-4 NS Main

● (E): for Europe
● (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				P401-MM TRANSISTOR BLOCK CIRCUIT BOARD
P401	1	1	YH21441330	P.W. Board, MM Transistor Block
	1		ZZ21448330	P.W. Board Assembly
				P401-SEMICONDUCTORS
Q401	1	1	HF201472B0	F.E.T. 2SK147
Q402	1	1	HF201472B0	F.E.T. 2SK147
Q403	1	1	HF100722B0	F.E.T. 2SJ72
Q404	1	1	HF100722B0	F.E.T. 2SJ72
Q405	1	1	HT322401B0	Transistor 2SC2240(BL)
Q406	1	1	HT322401B0	Transistor 2SC2240(BL)
Q407	1	1	HT109701B0	Transistor 2SA970(BL)
Q408	1	1	HT109701B0	Transistor 2SA970(BL)
Q409	1	1	HT109701A0	Transistor 2SA970(GR)
Q410	1	1	HT109701A0	Transistor 2SA970(GR)
Q411	1	1	HT322401A0	Transistor 2SC2240(GR)
Q412	1	1	HT322401A0	Transistor 2SC2240(GR)
Q413	1	1	HT108722D0	Transistor 2SA872A(D or E)
Q414	1	1	HT108722D0	Transistor 2SA872A(D or E)
Q415	1	1	HT317752D0	Transistor 2SC1775A(D or E)
Q416	1	1	HT317752D0	Transistor 2SC1775A(D or E)
				P401-PLUGS
J410	1	1	YP06000750	Plug, (14P)
J411	1	1	YP06000750	Plug, (14P)
J412	1	1	YP06000750	Plug, (14P)
J413	1	1	YP06000750	Plug, (14P)
				P600-POWER AMP. CIRCUIT BOARD
P600	1	1	YK222H1310	P.W. Board, Power Amp.
	1		ZZ221H8310	P.W. Board Assembly
				P600-CAPACITORS
C601	1	1	DF55271510	Film 270pF ±5%
C602	1	1	DF55271510	Film 270pF ±5%
C603	1	1	EA10602530	Elect 10μF 25V
C604	1	1	EA10602530	Elect 10μF 25V
C605	1	1	DF16104350	Film 0.1μF ±10%
C606	1	1	DF16104350	Film 0.1μF ±10%
C609	1	1	DF16104510	Film 0.1μF ±10%
C610	1	1	DF16104510	Film 0.1μF ±10%
C613	1	1	EA10505030	Elect 1μF 50V
C614	1	1	EA47602530	Elect 47μF 25V
C615	1	1	EA22601630	Elect 22μF 16V
⚠C616	1	1	EA22710030	Elect 220μF 100V
⚠C617	1	1	EA22710030	Elect 220μF 100V
C620	1	1	DK18103510	Ceramic 0.01μF
C621	1	1	DK18103510	Ceramic 0.01μF
C623	1	1	DF16473350	Film 0.047μF ±10%
C624	1	1	DF16473350	Film 0.047μF ±10%
C626	1	1	EA10602530	Elect 10μF 25V
C629	1	1	DF16473350	Film 0.047μF ±10%
C630	1	1	DF16473350	Film 0.047μF ±10%
C631	1	1	DF16473300	Film 0.047μF ±10%
C632	1	1	DF16222350	Film 2200pF ±10%
C633	1	1	DF16474520	Film 0.47μF ±10%
C634	1	1	DF16474520	Film 0.47μF ±10%
C635	1	1	EA47601630	Elect 47μF 16V

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				P600-RESISTORS (All Resistors are ±5% and ¼W)
R601	1	1	GD05472140	4.7KΩ
R602	1	1	GD05472140	4.7KΩ
R603	1	1	GD05153140	15KΩ
R604	1	1	GD05153140	15KΩ
R605	1	1	GD05103140	10KΩ
R606	1	1	GD05103140	10KΩ
R607	1	1	GD05273140	27KΩ
R608	1	1	GD05273140	27KΩ
R609	1	1	GD05273140	27KΩ
R610	1	1	GD05273140	27KΩ
R611	1	1	GD05821140	820Ω
R612	1	1	GD05821140	820Ω
R613	1	1	GG05470140	47Ω
R614	1	1	GG05470140	47Ω
R615	1	1	GG05470140	47Ω
R616	1	1	GG05470140	47Ω
R617	1	1	GG05471140	470Ω
R618	1	1	GG05471140	470Ω
R619	1	1	GA05562010	5.6KΩ 1W
R620	1	1	GA05562010	5.6KΩ 1W
R621	1	1	GG05330140	33Ω
R622	1	1	GG05330140	33Ω
R623	1	1	GG05330140	33Ω
R624	1	1	GG05330140	33Ω
R625	1	1	GG05470140	47Ω
R626	1	1	GG05470140	47Ω
R627	1	1	75061001P0	Jumper
R628	1	1	75061001P0	Jumper
R629	1	1	GG05220140	22Ω
R630	1	1	GG05220140	22Ω
R631	1	1	GG05220140	22Ω
R632	1	1	GG05220140	22Ω
R633	1	1	GG05220140	22Ω
R634	1	1	GG05220140	22Ω
R635	1	1	GG05220140	22Ω
R636	1	1	GG05220140	22Ω
⚠R637	1	1	GO10272050	0.27Ω ±10% 5W
⚠R638	1	1	GO10272050	0.27Ω ±10% 5W
⚠R639	1	1	GO10272050	0.27Ω ±10% 5W
⚠R640	1	1	GO10272050	0.27Ω ±10% 5W
⚠R641	1	1	GO10272050	0.27Ω ±10% 5W
⚠R642	1	1	GO10272050	0.27Ω ±10% 5W
⚠R643	1	1	GO10272050	0.27Ω ±10% 5W
⚠R644	1	1	GO10272050	0.27Ω ±10% 5%
R645	1	1	GD05472140	4.7KΩ
R646	1	1	GD05472140	4.7KΩ
R649	1	1	GD05682140	6.8KΩ
R650	1	1	GD05102140	1KΩ
R651	1	1	GD05273140	27KΩ
R652	1	1	GD05273140	27KΩ
R653	1	1	GA05100030	10Ω 3W
R654	1	1	GA05100030	10Ω 3W
R657	1	1	GD05823140	82KΩ
R658	1	1	GD05823140	82KΩ
R659	1	1	GD05393140	39KΩ
R660	1	1	GD05104140	100KΩ
R661	1	1	GD05473140	47KΩ
R662	1	1	GD05473140	47KΩ

• (E): for Europe
• (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
R663	1	1	GD05474140	470KΩ
R664	1	1	GD05273140	27KΩ
R666	1	1	GD05223140	22KΩ
R667	1	1	GG05183120	18KΩ
R668	1	1	GD05332140	3.3KΩ ½W
R669	1	1	GG05272120	2.7KΩ ½W
R671	1	1	GA05562010	5.6KΩ 1W
R672	1	1	GA05562010	5.6KΩ 1W
R673	1	1	GJ05100010	10Ω 1W
R681	1	1	GA05911020	910Ω 2W
R682	1	1	GD05010140	1Ω
R683	1	1	GD05010140	1Ω
				P600-SEMICONDUCTORS
Q601	1	1	HT315681S0	Transistor 2SC1568(S)
Q602	1	1	HT315681S0	Transistor 2SC1568(S)
Q603	1	1	HT110152A0	Transistor 2SA1015(O or Y)
Q604	1	1	HT110152A0	Transistor 2SA1015(O or Y)
Q605	1	1	HT326322R0	Transistor 2SC2632(R or S)
Q606	1	1	HT326322R0	Transistor 2SC2632(R or S)
Q607	1	1	HT111242R0	Transistor 2SA1124(R or S)
Q608	1	1	HT111242R0	Transistor 2SA1124(R or S)
Q609	1	1	HT325912B0	Transistor 2SC2591(Q or R)
Q610	1	1	HT111112B0	Transistor 2SA1111(Q or R)
Q611	1	1	HT325912B0	Transistor 2SC2591(Q or R)
Q612	1	1	HT111112B0	Transistor 2SA1111(Q or R)
⚠Q613	1	1	HT328372A0	Transistor 2SC2837(R or O)
⚠Q614	1	1	HT111862A0	Transistor 2SA1186(R or O)
⚠Q615	1	1	HT328372A0	Transistor 2SC2837(R or O)
⚠Q616	1	1	HT111862A0	Transistor 2SA1186(R or O)
Q617	1	1	HT328372A0	Transistor 2SC2837(R or O)
Q618	1	1	HT111862A0	Transistor 2SA1186(R or O)
⚠Q619	1	1	HT328372A0	Transistor 2SC2827(R or O)
⚠Q620	1	1	HT111862A0	Transistor 2SA1186(R or O)
Q621	1	1	HT317752D0	Transistor 2SC1775
Q622	1	1	HT317752D0	Transistor 2SC1775
Q623	1	1	HT108722D0	Transistor 2SA872
Q624	1	1	HC10042050	IC TA7317P
Q625	1	1	HD20014010	Diode 1S2471G
Q626	1	1	HD20014010	Diode 1S2471G
Q627	1	1	HD20014010	Diode 1S2471G
Q628	1	1	HD20014010	Diode 1S2471G
Q629	1	1	HD20022030	Diode DSF-10C-BT
Q630	1	1	HD20022030	Diode DSF-10C-BT
Q631	1	1	HD20022030	Diode DSF-10C-BT
Q632	1	1	HD20022030	Diode DSF-10C-BT
Q633	1	1	HD20011010	Diode W06C
Q634	1	1	HD20011010	Diode W06C
Q635	1	1	HD20011010	Diode W06C
Q636	1	1	HD20011010	Diode W06C
Q639	1	1	HD20014010	Diode 1SS81
Q640	1	1	HD20025100	Diode 10DF-2
⚠Q642	1	1	HD20022030	Diode DS135D
⚠Q643	1	1	HD20022030	Diode DS135D
⚠Q644	1	1	HD20022030	Diode DS135D
⚠Q645	1	1	HD20022030	Diode DS135D
Q647	1	1	HD20011050	Diode 1S1555
Q648	1	1	HD20011050	Diode 1S1555
Q649	1	1	HD30064090	Zener BZ-240
Q650	1	1	HD30033090	Zener WZ-052
				P600-MISCELLANEOUS
L603	1	1	LY20480060	Relay, 48V DC AR3423

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				P700-VOLTAGE AMP. CIRCUIT BOARD
P700	1	1	YK222H1320	P.W. Board, Voltage Amp.
	1		ZZ221H8320	P.W. Board Assembly
				P700-CAPACITORS
C701	1	1	DF55101090	Film 100pF ±5%
C702	1	1	DF55101090	Film 100pF ±5%
C703	1	1	DF55271090	Film 270pF ±5%
C704	1	1	DF55271090	Film 270pF ±5%
C709	1	1	DF35270520	Mica 27pF ±10%
C710	1	1	DF35270520	Mica 27pF ±10%
C711	1	1	DF16474520	Film 0.47μF ±10%
C712	1	1	DF16474520	Film 0.47μF
C715	1	1	EA47701630	Elect 470μF 16V
C716	1	1	EA47701630	Elect 470μF 16V
C771	1	1	EA10703530	Elect 100μF 35V
C772	1	1	EA10703530	Elect 100μF 35V
C773	1	1	EA47601630	Elect 47μF 16V
C775	1	1	EA10710030	Elect 100μF 100V
C776	1	1	EA10710030	Elect 100μF 100V
C777	1	1	DF16102510	Film 1000pF ±10%
C778	1	1	DF16102510	Film 1000pF ±10%
C779	1	1	DF16102510	Film 1000pF ±10%
C780	1	1	DF16102510	Film 1000pF ±10%
C781	1	1	EQ47502530	Elect 4.7μF 25V
C782	1	1	EQ47502530	Elect 4.7μF 25V
				P700-RESISTORS (All Resistors are ±5% and ¼W)
R701	1	1	GD05473140	47KΩ
R702	1	1	GD05473140	47KΩ
R703	1	1	GM21446410	4.7KΩ
R704	1	1	GM21446410	4.7KΩ
R705	1	1	GD05561140	560Ω
R706	1	1	GD05561140	560Ω
R707	1	1	GD05561140	560Ω
R708	1	1	GD05561140	560Ω
R709	1	1	GD05222140	2.2KΩ
R710	1	1	GD05222140	2.2KΩ
R711	1	1	GD05222140	2.2KΩ
R712	1	1	GD05222140	2.2KΩ
R713	1	1	GD05102140	1KΩ
R714	1	1	GD05102140	1KΩ
R715	1	1	GD05102140	1KΩ
R716	1	1	GD05102140	1KΩ
R717	1	1	GD05473140	47KΩ
R718	1	1	GD05473140	47KΩ
R721	1	1	GD05101140	100Ω
R722	1	1	GD05101140	100Ω
R723	1	1	GD05331140	330Ω
R724	1	1	GD05331140	330Ω
R725	1	1	GD05154140	150KΩ
R726	1	1	GD05154140	150KΩ
R727	1	1	GD05682140	6.8KΩ
R728	1	1	GD05682140	6.8KΩ
R729	1	1	GD05181140	180Ω
R730	1	1	GD05181140	180Ω
R731	1	1	GD05561140	560Ω
R732	1	1	GD05561140	560Ω

• (E): for Europe
• (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
R733	1	1	GD05472140	4.7KΩ
R734	1	1	GD05472140	4.7KΩ
R735	1	1	GD05472140	4.7KΩ
R736	1	1	GD05472140	4.7KΩ
R737	1	1	GD05472140	4.7KΩ
R738	1	1	GD05472140	4.7KΩ
R739	1	1	GD05472140	4.7KΩ
R740	1	1	GD05472140	4.7KΩ
R741	1	1	GG05331140	330Ω
R742	1	1	GG05331140	330Ω
R743	1	1	GG05331140	330Ω
R744	1	1	GG05331140	330Ω
R749	1	1	GD05123140	12KΩ
R750	1	1	GD05123140	12KΩ
R751	1	1	GA05272020	2.7KΩ 2W
R752	1	1	GA05182020	1.8KΩ 2W
R753	1	1	GD05473140	47KΩ
R754	1	1	GD05473140	47KΩ
R755	1	1	GD05222140	2.2KΩ
R756	1	1	GD05222140	2.2KΩ
R757	1	1	GD05222140	2.2KΩ
R758	1	1	GD05222140	2.2KΩ
R759	1	1	GD05102140	1KΩ
R760	1	1	GD05102140	1KΩ
R761	1	1	GD05474140	470KΩ
R762	1	1	GD05474140	470KΩ
R763	1	1	GD05474140	470KΩ
R764	1	1	GD05474140	470KΩ
R771	1	1	GD05102140	1KΩ
R772	1	1	GD05102140	1KΩ
R773	1	1	GD05332140	3.3KΩ
R774	1	1	GD05332140	3.3KΩ
R775	1	1	GD05272140	2.7KΩ
R776	1	1	GD05272140	2.7KΩ
R777	1	1	GA05153010	15KΩ 1W
R779	1	1	GD05123140	12KΩ
R780	1	1	GD05473140	47KΩ
R781	1	1	GD05332140	3.3KΩ
R782	1	1	GD05473140	47KΩ
R783	1	1	GD05821140	820Ω
				P700-SEMICONDUCTORS
Q701	1	1	HC10042060	IC μPA68H
Q702	1	1	HC10042060	IC μPA68H
Q703	1	1	HT322592F0	Transistor 2SC2259(F or G)
Q704	1	1	HT322592F0	Transistor 2SC2259(F or G)
Q705	2	2	HT108722B0	Transistor 2SA872(D or E) x 2
Q706	2	2	HT108722B0	Transistor 2SA872(D or E) x 2
Q707	1	1	HT322402A0	Transistor 2SC2240(GR or BL)
Q708	1	1	HT322402A0	Transistor 2SC2240(GR or BL)
Q709	1	1	HT109702A0	Transistor 2SA970(GR or BL)
Q710	1	1	HT109702A0	Transistor 2SA970(GR or BL)
Q713	1	1	HT109702A0	Transistor 2SA970(GR or BL)
Q714	1	1	HT109702A0	Transistor 2SA970(GR or BL)
Q715	1	1	HT322402A0	Transistor 2SC2240(GR or BL)
Q716	1	1	HT322402A0	Transistor 2SC2240(GR or BL)
Q717	1	1	HT111242R0	Transistor 2SA1124(R or S)

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
Q718	1	1	HT111242R0	Transistor 2SA1124(R or S)
Q719	1	1	HT326322R0	Transistor 2SA2632(R or S)
Q720	1	1	HT326322R0	Transistor 2SA2632(R or S)
Q721	1	1	HC10007090	IC NJM4560
Q722	1	1	HC10007090	IC NJM4560
Q723	1	1	HD30025090	Zener WZ-150
Q724	1	1	HD30025090	Zener WZ-150
Q725	1	1	HD20011050	Diode 1S1555
Q726	1	1	HD20011050	Diode 1S1555
Q727	1	1	HD20011050	Diode 1S1555
Q728	1	1	HD20011050	Diode 1S1555
Q729	1	1	HD20011050	Diode 1S1555
Q730	1	1	HD20011050	Diode 1S1555
Q771	1	1	HT322382E0	Transistor 2SC2238(O or Y)
Q772	1	1	HT109682E0	Transistor 2SC968(O or Y)
Q773	1	1	HT317752D0	Transistor 2SC1775A(D or E)
Q774	1	1	HT108722D0	Transistor 2SA872A(D or E)
Q775	1	1	HT317752D0	Transistor 2SC1775A(D or E)
Q776	1	1	HT108722D0	Transistor 2SA872A(D or E)
Q777	1	1	HD30009010	Zener HZ12B2L
				PC00-RIPPLE FILTER CIRCUIT BOARD
PC00	1	1	YH221H0210	P.W. Board, Ripple Filter
	1		ZZ221H0210	P.W. Board Assembly
				PC00-CAPACITORS
CM31	1	1	EA10702530	Elect 100μF 25V
CM32	1	1	EA10702530	Elect 100μF 25V
				PC00-RESISTORS
RM51	1	1	GA05221010	220Ω ±5% 1W
RM52	1	1	GA05221010	220Ω ±5% 1W
RM53	1	1	GD05392140	3.9KΩ ±5% ¼W
RM54	1	1	GD05392140	3.9KΩ ±5% ¼W
RM55	1	1	GD05682140	6.8KΩ ±5% ¼W
RM56	1	1	GD05682140	6.8KΩ ±5% ¼W
				PC00-SEMICONDUCTORS
QM31	1	1	HT322382E0	Transistor 2SC2238(Q, Y)
QM32	1	1	HT109682E0	Transistor 2SA968(Q, Y)
				PE01-TONE AMP. CIRCUIT BOARD
PE01	1	1	YK221H1810	P.W. Board, Tone Amp.
	1		ZZ221H8810	P.W. Board Assembly
				PE01-CAPACITORS
CE01	1	1	EA33505030	Elect 3.3μF 50V
CE03	1	1	DF35101520	Mica 100pF ±5% 250V
CE05	1	1	DF35101520	Mica 100pF ±5% 250V
CE07	1	1	DF15103300	Film 0.01μF ±5%
CE09	1	1	DF15103300	Film 0.01μF ±5%
CE11	1	1	DF55821090	Film 820pF ±5%
CE13	1	1	DF35560520	Mica 56pF ±5% 250V
CE15	1	1	EA10605030	Elect 10μF 50V
CE17	1	1	EA22602530	Elect 22μF 25V
CE51	1	1	EA33603530	Elect 33μF 35V
CE53	1	1	EA22602530	Elect 22μF 25V
CE55	1	1	EA22602530	Elect 22μF 25V

• (E): for Europe
• (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				PE01-RESISTORS
				(All Resistors are ±5% and ¼W)
RE01	1	1	GD05103140	10KΩ
RE03	1	1	GD05103140	10KΩ
RE05	1	1	GD05472140	4.7KΩ
RE07	1	1	GD05103140	10KΩ
RE09	1	1	GD05103140	10KΩ
RE11	1	1	GD05103140	10KΩ
RE13	1	1	GD05393140	39KΩ
RE15	1	1	GD05393140	39KΩ
RE17	1	1	GD05103140	10KΩ
RE19	1	1	RK01040190	100KΩ(B) Variable
RE21	1	1	RK01040190	100KΩ(B) Variable
RE23	1	1	GD05470140	47Ω
RE25	1	1	GD05103140	10KΩ
RE51	1	1	GG05271120	270Ω T ½W
RE53	1	1	G005182140	1.8KΩ
				PE01-SEMICONDUCTORS
QE01	1	1	HC10007090	IC NJM4560
QE51	1	1	HT405712B0	Transistor 2SD571(L or K)
QE53	1	1	HD30014010	Zener HZ16L
				PE02-CAPACITORS
CE02	1	1	EA33505030	Elect 3.3μF 50V
CE04	1	1	DF35101520	Mica 100μF ±5% 250V
CE06	1	1	DF35101520	Mica 100μF ±5% 250V
CE08	1	1	DF15103300	Film 0.01μF ±5%
CE10	1	1	DF15103300	Film 0.01μF ±5%
CE12	1	1	DF55821090	Film 820pF ±5%
CE14	1	1	DF35560520	Mica 56pF ±5% 250V
CE16	1	1	EA10605030	Elect 10μF 50V
CE18	1	1	EA22602530	Elect 22μF 25V
CE52	1	1	EA33603530	Elect 33μF 35V
CE54	1	1	EA22602530	Elect 22μF 25V
CE56	1	1	EA22602530	Elect 22μF 25V
				PE02-RESISTORS
				(All Resistors are ±5% and ¼W)
RE02	1	1	GD05103140	10KΩ
RE04	1	1	GD05103140	10KΩ
RE06	1	1	GD05472140	4.7KΩ
RE08	1	1	GD05103140	10KΩ
RE10	1	1	GD05103140	10KΩ
RE12	1	1	GD05103140	10KΩ
RE14	1	1	GD05393140	39KΩ
RE16	1	1	GD05393140	39KΩ
RE18	1	1	GD05103140	10KΩ
RE20	1	1	RK01040190	100KΩ(B) Variable
RE22	1	1	RK01040190	100KΩ(B) Variable
RE24	1	1	GD05470140	47Ω
RE26	1	1	GD05103140	10KΩ
RE52	1	1	GG05271120	270Ω ½W
RE54	1	1	GD05182140	1.8KΩ
				PE02-SEMICONDUCTORS
QE02	1	1	HC10007090	IC NJM4560
QE52	1	1	HT206052B0	Transistor 2SB605(L, K)
QE54	1	1	HD30014010	Zener HZ16L
				PF00-LOUDNESS CIRCUIT BOARD
PF00	1	1	YK221H1850	P.W. Board, Loudness
	1		ZZ221H8850	P.W. Board Assembly
				PF00-CAPACITORS
CF01	1	1	DF15473300	Film 0.047μF ±5%
CF02	1	1	DF15473300	Film 0.047μF ±5%
CF03	1	1	DF15683300	Film 0.068μF ±5%
CF04	1	1	DF15683300	Film 0.068μF ±5%

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				PF00-RESISTORS
RF01	1	1	GD05822140	8.2KΩ ±5% ¼W
RF02	1	1	GD05822140	8.2KΩ ±5% ¼W
				PF00-SWITCH
SF01	1	1	SC02030140	Switch, Loudness
				PG00-MODE/BALANCE/VOL. CIRCUIT BOARD
PG00	1	1	YK21441310	P.W. Board, Mode/Balance/Vol.
	1		ZZ21448310	P.W. Board Assembly
				PG00-RESISTORS
RG01	1	1	RM01040510	100KΩ X2 Variable
RG02	1	1	RM01040500	100KΩ X2 Variable
				PG00-SWITCH
SG01	1	1	SR04050250	Rotary Switch, Mode
				PH00-FILTER CIRCUIT BOARD
PH00	1	1	YK221H1860	P.W. Board, Filter
	1		ZZ221H8860	P.W. Board Assembly
				PH00-CAPACITORS
CH01	1	1	EQ10602530	Elect 10μF 25V
CH02	1	1	EQ10602530	Elect 10μF 25V
CH03	1	1	EQ10505030	Elect 1μF 50V
CH04	1	1	EQ10505030	Elect 1μF 50V
CH05	1	1	EQ47502530	Elect 4.7μF 25V
CH06	1	1	EQ47502530	Elect 4.7μF 25V
CH09	1	1	DF55121090	Film 120pF ±5%
CH10	1	1	DF55121090	Film 120pF ±5%
CH11	1	1	DF55182090	Film 1800pF ±5%
CH12	1	1	DF55182090	Film 1800pF ±5%
CH13	1	1	EQ10602530	Elect 10μF 25V
CH14	1	1	EQ10602530	Elect 10μF 25V
				PH00-RESISTORS
				(All Resistors are ±5% and ¼W)
RH01	1	1	GD05473140	47KΩ
RH02	1	1	GD05473140	47KΩ
RH03	1	1	GD05222140	2.2KΩ
RH04	1	1	GD05222140	2.2KΩ
RH05	1	1	GD05104140	100KΩ
RH06	1	1	GD05104140	100KΩ
RH07	1	1	GD05102140	1KΩ
RH08	1	1	GD05102140	1KΩ
RH09	1	1	GD05103140	10KΩ
RH10	1	1	GD05103140	10KΩ
RH11	1	1	GD05103140	10KΩ
RH12	1	1	GD05103140	10KΩ
				PH00-SEMICONDUCTOR
QH01	1	1	HC10007090	IC NJM4560
				PH00-SWITCH
SH01	1	1	SP02020260	Push Switch, Filter
				PJ00-TEST POINT CIRCUIT BOARD
PJ00	1	1	YK222H1430	P.W. Board, Test Point
				PJ01-AC TERMINAL CIRCUIT BOARD
PJ01	1		YK222H1440	P.W. Board, AC Terminal

• (E): for Europe
• (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				PK00-A-B POWER SWITCH CIRCUIT BOARD
PK00	1	1	YK222H1420	P.W. Board, A-B Power SW
	1		ZZ222H1420	P.W. Board Assembly
				PK00-CAPACITOR
CK01	1	1	DF55471090	Film 470pF ±5%
				PK00-RESISTORS
RK01	1	1	GD05222140	2.2KΩ ¼W
RK02	1	1	GD05102140	1KΩ ¼W
RK03	1	1	GG05152120	1.5KΩ ½W
RK04	1	1	GG05152120	1.5KΩ ½W
RK05	1	1	GA05222010	2.2KΩ 1W
RK06	1	1	GA05222010	2.2KΩ 1W
				PK00-SEMICONDUCTORS
QK01	1	1	HT317752D0	Transistor 2SC1775A(D or E)
QK02	1	1	HT108722D0	Transistor 2SA872(D or E)
QK03	1	1	HT309452B0	Transistor 2SC945(P or Q)
QK04	1	1	HT107332A0	Transistor 2SC733(P or Q)
QK05	1	1	HT322382E0	Transistor 2SC2238(O or Y)
QK06	1	1	HT109682E0	Transistor 2SA968(O or Y)
QK07	1	1	HT328372A0	Transistor 2SC2837(R or O)
QK08	1	1	HT111862A0	Transistor 2SC1186(R or O)
QK09	1	1	HT328372A0	Transistor 2SC2837(R or O)
QK10	1	1	HT111862A0	Transistor 2SC1186(R or O)
QK11	1	1	HD20027100	Diode 30DF-2
QK12	1	1	HD20027100	Diode 30DF-2
				PL00-A-B DETECTOR CIRCUIT BOARD
PL00	1	1	YK222H1410	P.W. Baord, A-B Detector
	1		ZZ222H1410	P.W. Board Assembly
				PL00-CAPACITORS
CL01	1	1	DF16332300	Film 3300pF ±10%
CL02	1	1	DF16332300	Film 3300pF ±10%
CL03	1	1	EA10601630	Elect 10μF 16V
CL04	1	1	EA10601630	Elect 10μF 16V
CL05	1	1	DK16221300	Ceramic 220pF ±10% 50V
CL06	1	1	DK16221300	Ceramic 220pF ±10% 50V
CL07	1	1	DD15220370	Ceramic 22pF ±5% 50V
CL08	1	1	DD15220370	Ceramic 22pF ±5% 50V
CL09	1	1	EA10601630	Elect 10μF 16V
CL10	1	1	EA10601630	Elect 10μF 16V
CL11	1	1	DF55821090	Film 820pF ±5%
CL12	1	1	DF55821090	Film 820pF ±5%
CL13	1	1	DD15220370	Ceramic 22pF ±5% 50V
CL14	1	1	EA10601630	Elect 10μF 16V
CL15	1	1	EA10602530	Elect 10μF 25V
CL16	1	1	EA10602530	Elect 10μF 25V
CL17	1	1	DD15101370	Ceramic 100pF ±5%
CL18	1	1	DD15101370	Ceramic 100pF ±5%

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				PL00-RESISTORS (All Resistors are ±5% and ¼W)
RL01	1	1	GD05103140	10KΩ
RL02	1	1	GD05103140	10KΩ
RL03	1	1	GD05153140	15KΩ
RL04	1	1	GD05153140	15KΩ
RL05	1	1	GD05472140	4.7KΩ
RL06	1	1	GD05472140	4.7KΩ
RL07	1	1	GD05103140	10KΩ
RL08	1	1	GD05103140	10KΩ
RL09	1	1	RA05020130	4.7KΩ, Trimming
RL10	1	1	RA05020130	4.7KΩ, Trimming
RL11	1	1	GD05222140	2.2KΩ
RL12	1	1	GD05222140	2.2KΩ
RL13	1	1	GD05104140	100KΩ
RL14	1	1	GD05104140	100KΩ
RL15	1	1	GD05104140	100KΩ
RL16	1	1	GD05104140	100KΩ
RL17	1	1	GD05103140	10KΩ
RL18	1	1	GD05103140	10KΩ
RL19	1	1	GD05222140	2.2KΩ
RL20	1	1	GD05222140	2.2KΩ
RL21	1	1	GD05223140	22KΩ
RL22	1	1	GD05223140	22KΩ
RL23	1	1	GD05222140	2.2KΩ
RL24	1	1	GD05222140	2.2KΩ
RL25	1	1	GD05104140	100KΩ
RL26	1	1	GD05104140	100KΩ
RL27	1	1	GD05104140	100KΩ
RL28	1	1	GD05104140	100KΩ
RL29	1	1	GD05223140	22KΩ
RL30	1	1	GD05223140	22KΩ
RL31	1	1	RA02220100	2.2KΩ, Trimming
RL32	1	1	GD05104140	100KΩ
RL33	1	1	GD05473140	47KΩ
RL34	1	1	GD05104140	100KΩ
RL35	1	1	GD05471140	470Ω
RL36	1	1	GD05222140	2.2KΩ
RL37	1	1	GD05123140	12KΩ
RL38	1	1	GD05123140	12KΩ
RL39	1	1	RA01030070	10KΩ, Trimming
RL40	1	1	RA01030070	10KΩ, Trimming
RL41	1	1	GD05223140	22KΩ
RL42	1	1	GD05223140	22KΩ
RL43	1	1	RA02230040	22KΩ, Trimming
RL44	1	1	RA02230040	22KΩ, Trimming

• (E): for Europe
• (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				PL00-SEMICONDUCTORS
QL01	1	1	HC10013370	IC TL4558
QL02	1	1	HC10013370	IC TL4558
QL03	1	1	HC10009090	IC NJM2901
QL04	1	1	HC712200A0	IC HD74LS122
QL05	1	1	HW10001320	Photo Unit PC627
QL06	1	1	HD20001210	Diode 1S2473
QL07	1	1	HD20001210	Diode 1S2473
QL08	1	1	HD20001210	Diode 1S2473
QL09	1	1	HD20001210	Diode 1S2473
QL10	1	1	HD20001210	Diode 1S2473
QL11	1	1	HD20001210	Diode 1S2473
QL12	1	1	HD20001210	Diode 1S2473
QL13	1	1	HD20001210	Diode 1S2473
QL14	1	1	HD20001210	Diode 1S2473
QL15	1	1	HT309452B0	Transistor 2SC945(P or Q)
				PM01-MC TRANSISTOR BLOCK CIRCUIT BOARD
PM01	1	1	YK21441320	P.W. Board, MC Transistor Block
	1		ZZ21448320	P.W. Board Assembly
				PM01-RESISTORS
RM35	1	1	GF05100140	10Ω ±5% ¼W
RM36	1	1	GF05100140	10Ω ±5% ¼W
RM37	1	1	GF05100140	10Ω ±5% ¼W
RM38	1	1	GF05100140	10Ω ±5% ¼W
				PM01-SEMICONDUCTORS
QM01	1	1	HT325451E0	Transistor 2SC2545(E)
QM02	1	1	HT325451E0	Transistor 2SC2545(E)
QM03	1	1	HT325451E0	Transistor 2SC2545(E)
QM04	1	1	HT325451E0	Transistor 2SC2545(E)
QM05	1	1	HT325451E0	Transistor 2SC2545(E)
QM06	1	1	HT325451E0	Transistor 2SC2545(E)
QM07	1	1	HT325451E0	Transistor 2SC2545(E)
QM08	1	1	HT325451E0	Transistor 2SC2545(E)
QM09	1	1	HT110831E0	Transistor 2SA1083(E)
QM10	1	1	HT110831E0	Transistor 2SA1083(E)
QM11	1	1	HT110831E0	Transistor 2SA1083(E)
QM12	1	1	HT110831E0	Transistor 2SA1083(E)
QM13	1	1	HT110831E0	Transistor 2SA1083(E)
QM14	1	1	HT110831E0	Transistor 2SA1083(E)
QM15	1	1	HT110831E0	Transistor 2SA1083(E)
QM16	1	1	HT110831E0	Transistor 2SA1083(E)
QM17	1	1	HT108722D0	Transistor 2SA872A(D or E)
QM18	1	1	HT108722D0	Transistor 2SA872A(D or E)
QM19	1	1	HT317752D0	Transistor 2SC1775A(D or E)
QM20	1	1	HT317752D0	Transistor 2SC1775A(D or E)

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
QM21	1	1	HT323201F0	Transistor 2SC2320(E or F)
QM22	1	1	HT323201F0	Transistor 2SC2320(E or F)
QM23	1	1	HT406661C0	Transistor 2SD666(C)
QM24	1	1	HT406661C0	Transistor 2SD666(C)
QM25	1	1	HT206461C0	Transistor 2SB646(C)
QM26	1	1	HT206461C0	Transistor 2SB646(C)
				PM01-PLUGS
J410	1	1	YP06000750	Plug, (14P)
J411	1	1	YP06000750	Plug, (14P)
				PN00-ASO PROTECTOR CIRCUIT BOARD
PN00	1	1	YK22870210	P.W. Board, ASO Protector
	1		ZZ22870210	P.W. Board Assembly
				PN00-CAPACITORS
CN01	1	1	DF16222350	Film 2200pF ±10%
CN02	1	1	DF16222350	Film 2200pF ±10%
CN03	1	1	DF16222350	Film 2200pF ±10%
CN04	1	1	DF16222350	Film 2200pF ±10%
				PN00-RESISTORS (All Resistors are ±5% and ¼W)
RN01	1	1	GD05331140	330Ω
RN02	1	1	GD05331140	330Ω
RN03	1	1	GD05331140	330Ω
RN04	1	1	GD05331140	330Ω
RN09	1	1	GD05472140	4.7KΩ
RN10	1	1	GD05472140	4.7KΩ
RN11	1	1	GD05472140	4.7KΩ
RN12	1	1	GD05472140	4.7KΩ
RN13	1	1	GD05273140	27KΩ
RN14	1	1	GD05273140	27KΩ
				PN00-SEMICONDUCTORS
QN01	1	1	HT309452C0	Transistor 2SC945(P or K)
QN02	1	1	HT309452C0	Transistor 2SC945(P or K)
QN03	1	1	HT107332C0	Transistor 2SA733(P or K)
QN04	1	1	HT107332C0	Transistor 2SA733(P or K)
QN05	1	1	HD20011050	Diode 1S1555
QN06	1	1	HD20011050	Diode 1S1555
QN07	1	1	HD20011050	Diode 1S1555
QN08	1	1	HD20011050	Diode 1S1555
QN09	1	1	HD20002210	Diode 1S2472
QN10	1	1	HD20002210	Diode 1S2472
QN11	1	1	HD20002210	Diode 1S2472
QN12	1	1	HD20002210	Diode 1S2472

• (E): for Europe
• (F): for Japan

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				PS00-TONE ON-OFF CIRCUIT BOARD
PS00	1	1	YK221H1820	P.W. Board, Tone ON-OFF
	1		ZZ221H8820	P.W. Board Assembly
				PS00-RESISTORS
RS01	1	1	GD05103140	10KΩ ±5% ¼W
RS02	1	1	GD05103140	10KΩ ±5% ¼W
				PS00-SWITCH
SS01	1	1	SC04020200	Switch, Tone ON-OFF
				PV00-PHONO INPUT CIRCUIT BOARD
PV00	1	1	YK221H1830	P.W. Board, Phono Input
	1		ZZ221H8830	P.W. Board Assembly
CV01	1	1	DK18473320	Ceramic Cap. 0.047μF
CV02	1	1	DK18473320	Ceramic Cap. 0.047μF
JV01	1	1	YT02040320	Terminal, (4P) RCA
				PW00-SPEAKER SWITCH CIRCUIT BOARD
PW00	1	1	YK221H1870	P.W. Board, Speaker Switch
	1		ZZ221H8870	P.W. Board Assembly
RW01	1	1	GA05271010	Resistor 270Ω ±5% 1W
RW02	1	1	GA05271010	Resistor 270Ω ±5% 1W
SW01	1	1	SP04020200	Push Switch, Speaker

REF. DESIG.	Q'TY E	Q'TY F	PART NO.	DESCRIPTION
				PX00-HEAD PHONE CIRCUIT BOARD
PX00	1	1	YK21441540	P.W. Board, Head Phone
	1		ZZ21448540	P.W. Board Assembly
JX01	1	1	YJ01001400	Jack, Head Phone
				PY00-L.E.D. POWER IND. CIRCUIT BOARD
PY00	1	1	YK221H1880	P.W. Board, L.E.D. Power Ind.
	1		ZZ221H8880	P.W. Board Assembly
QY01	1	1	HI10004030	L.E.D. SLP132B

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

10. TECHNICAL SPECIFICATIONS

AUDIO SECTION

POWER OUTPUT RATING PER CHANNEL	
4 OHMS RMS (20 Hz – 20 kHz)	150 W
8 OHMS RMS (20 Hz – 20 kHz, Class AB)	120 W
TOTAL HARMONIC DISTORTION AT RMS 8 OHMS	0.03 %
I.M. DISTORTION	0.03 %
DAMPING FACTOR 8 OHMS (1 kHz)	120

MM CARTRIDGE INPUT

Frequency Response (RIAA)	±0.3 dB
Signal-to-Noise Ration ("A" Weighted 7.75 mV Input)	90 dB
Input Impedance Phono 1	47 kHz
Phono 2	100/47/27 kHz
Input Sensitivity	2.2 mV
Equivalent Noise at Input ("A" Weighted)	0.24 μV
Dynamic Range	110 dB

MC CARTRIDGE INPUT

Input Sensitivity	220 μV
Input Impedance	75 ohms

AUX. INPUT

Input Impedance	33 k ohms
Input Sensitivity	150 mV
Frequency Response (±1 dB Tone out)	10 Hz – 80 kHz
Signal-to-Noise Ratio ("A" Weighted Input Shorted)	98 dB

OUTPUT VOLTAGE

Tape Out	150 mV

OUTPUT IMPEDANCE

Tape Out	560 ohms

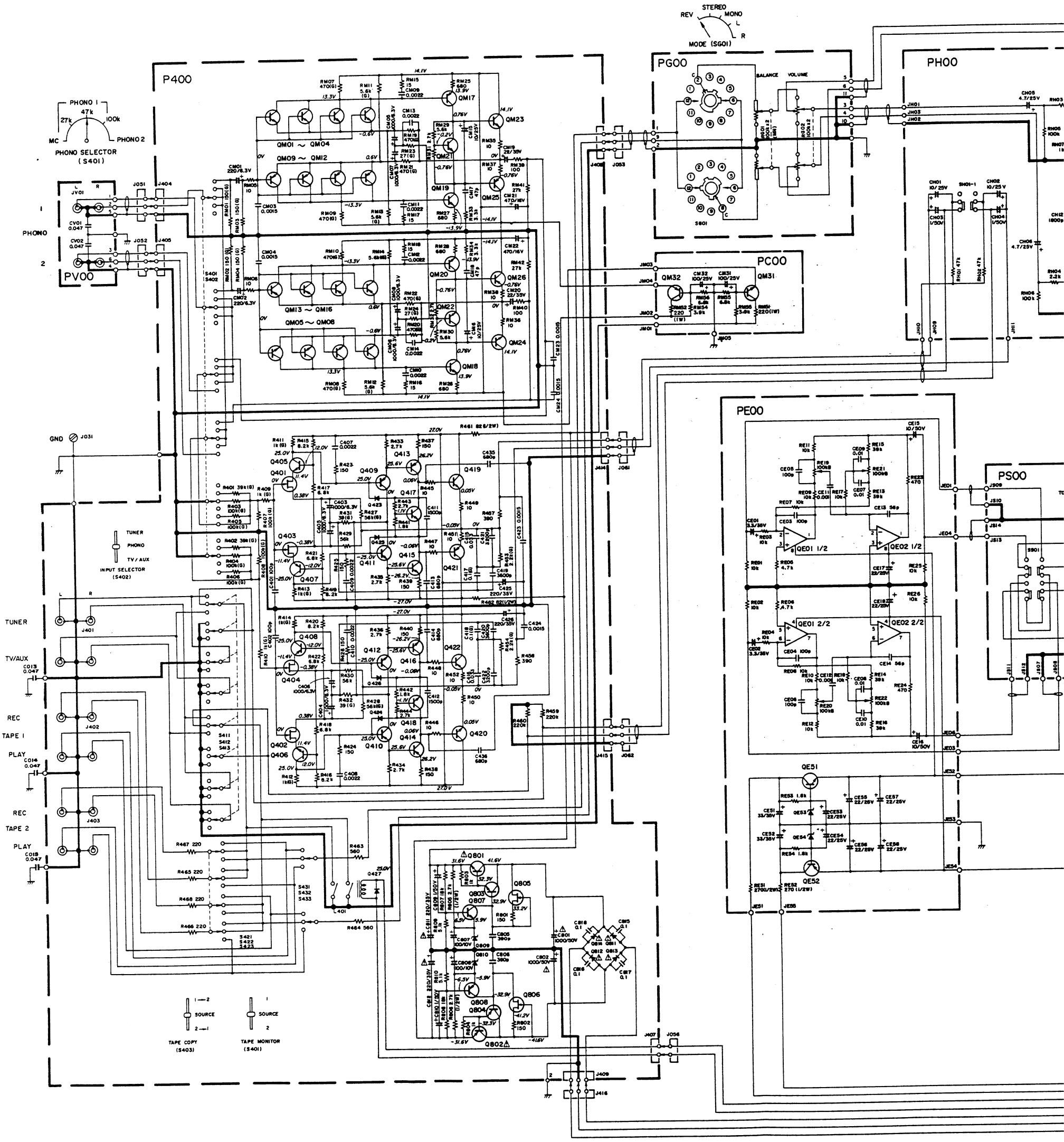
GENERAL

Power Requirements	110/120/220/240 V AC, 50/60 Hz (Voltage selection can be done by external voltage selector.)
Power Consumption at Rated Output, Both Channels Operating	500 W
Dimensions	
Panel Width	416 mm
Panel Height	146 mm
Depth	332 mm
Weight	
Unit alone	15.5 kg

Specifications and appearance are subject to change for modification without notice.

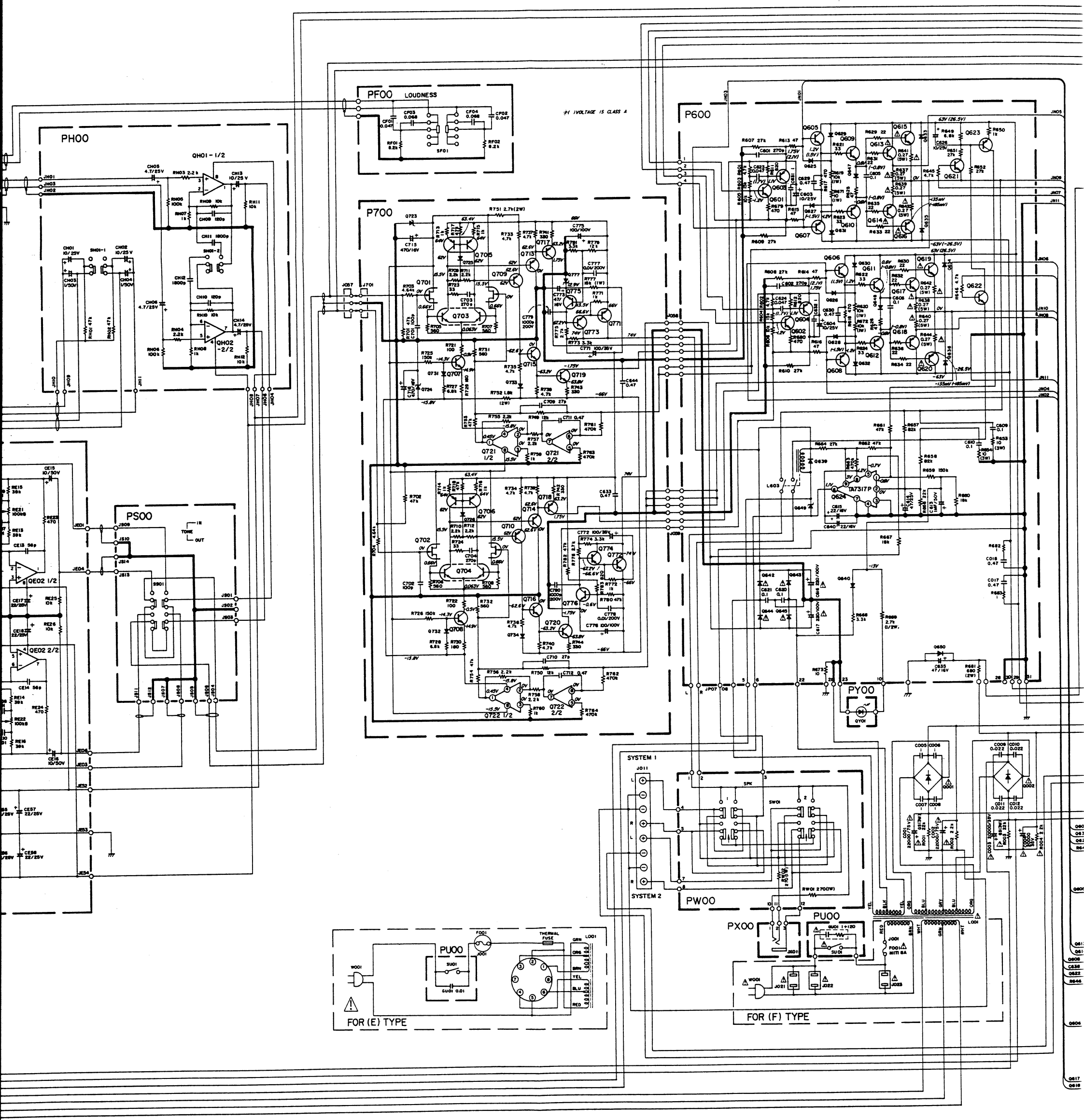
MEMORANDUM

11. SCHEMATIC DIAGRAM

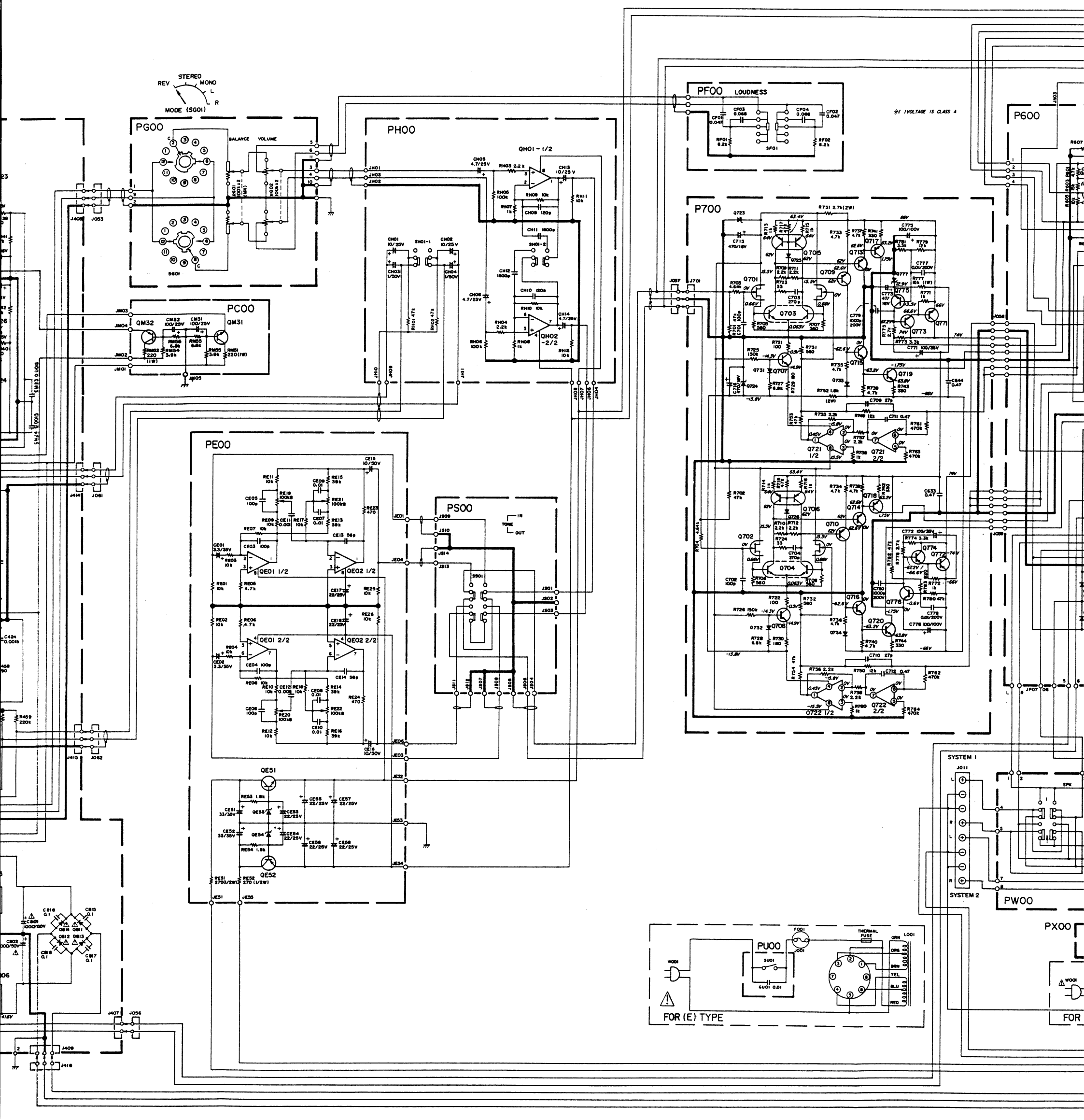


NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.



Components and wiring are subject to change for modification



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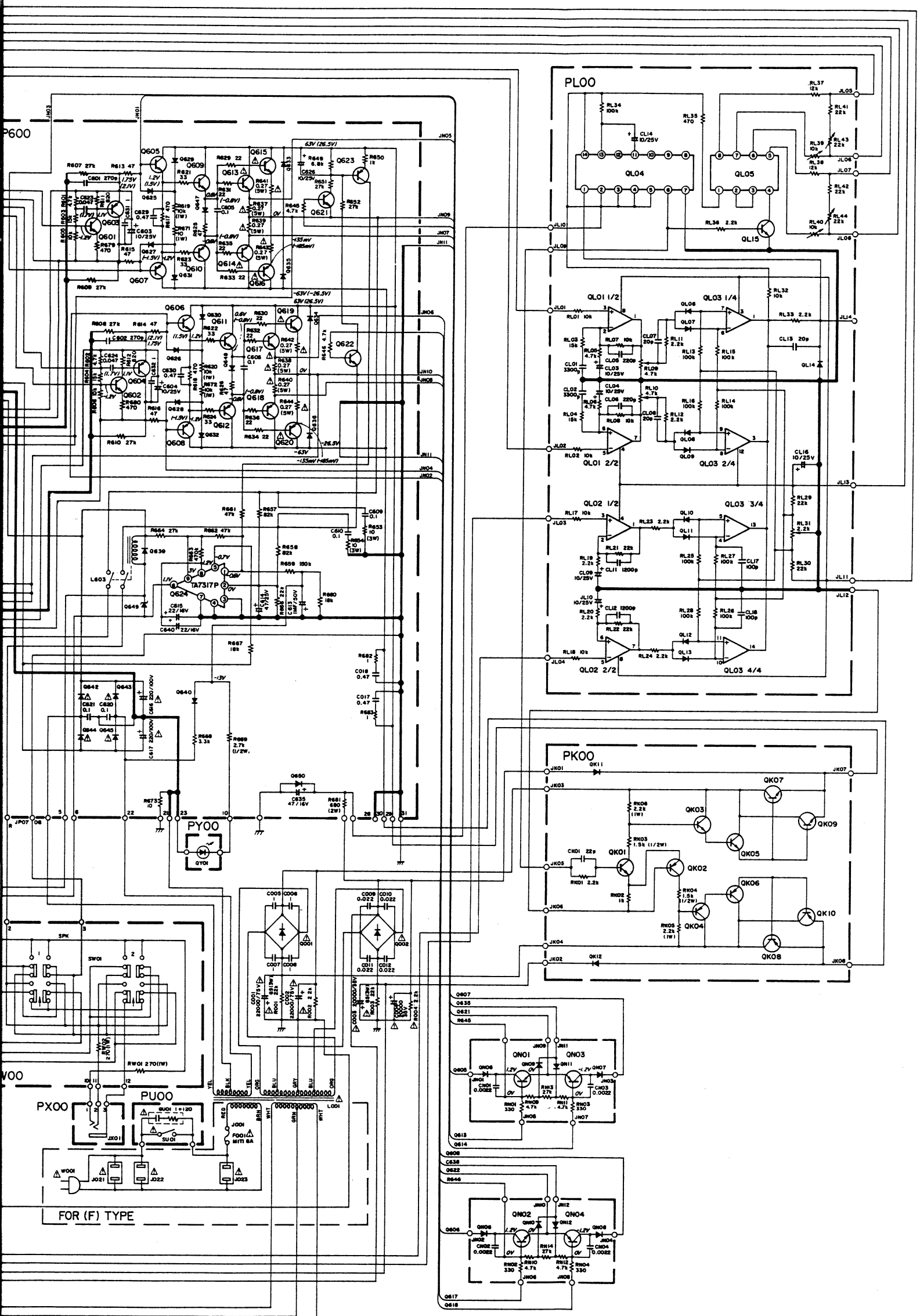
Model Pm-6a



Q001
S5VB-20

Q002
S4VB-20

Q401, Q402
2SK151(F,G)

Q403, Q404
2SJ51(G,F)

Q405, Q406
2SC2240(B,L)

Q407, Q408
2SA970(BL)

Q409, Q410
2SA970(GR)

Q411, Q412
2SC2240(GR)

Q413, Q414, Q623
2SA872A(DE)

Q415, Q416, Q
2SC1775A(D,E)

Q417, Q418
2SC2320(F)

Q419, Q420
2SC2591(Q,R)

Q421, Q422
2SA1111(Q,R)

Q423～Q427
1SS81

Q601, Q602
2SC1568(S)

Q603, Q604, Q623
2SA1015(O,Y)

Q605, Q606
2SC2632(R,S)

Q607, Q608
2SA1124(R,S)

Q609, Q611
2SC259(Q,R)

Q610, Q612
2SA1111(Q,R)

Q613, Q615, Q617, Q619
2SC2706(R,O)

Q614, Q616, Q618, Q620
2SA1146(R,O)

Q621, Q622
2SC1815(O,Y)

Q624
IC TA7317P

Q625～Q628
1S2471G

Q629～Q632
Q640, Q642～Q645
DSI35D

Q633～Q636
W06C

Q639, Q641, Q647, Q648
1SI555

Q649
BZ-240

Q650
WZ052

SLP1328
BZ100
R670

Q701, Q702
ICM47F(C)

Q703, Q704
2SC2259(F,G)

Q705, Q706
2SA995(F,G)

Q707, Q708, Q715, Q716
2SC2240(GR,BL)

Q709, Q710, Q713, Q714
2SA970(GR,BL)

Q717, Q718
2SA1124(R,S)

Q719, Q720
2SC2632(R,S)

Q721, Q722
IC NJM4560

Q723, Q724
Z, WZ150

Q771
2SC2238B

Q772
2SA9688

Q773, Q775
2SC1775A(D,E)

Q774, Q776
2SA872A(D,E)

Q777
Z, HZ12B2L

Q727～Q730
1SI555

Q801
2SC2591(Q,R)

Q802
2SA1111(Q,R)

Q803
2SC2240(GR,BL)

Q804
2SA970(GR,BL)

Q805, Q806
2SK30A(Y)

Q807
2SC1775A(D,E)

Q808
2SA872A(D,E)

Q809, Q810
HZ68IL

Q811～Q814
DSI35(D)

Q725, Q726
1SS88

QH01
NJM4560

QE01, QE02
NJM4560

QE51
2SD571

QE52
2SB605

QE53, QE54
HZ16L

QK01
2SC1775A(D,F)

QK02
2SA872(D,F)

QK03
2SC945(P,Q)

QK04
2SA733(P,Q)

QK05
2SD313(D,F)

QK06
2SB507(D,F)

QK07, QK09
2SC2837(R,O)

QK08, QK10
2SA1186(R,O)

QK11, QK12
30DF-2

QL01, QL02
TL4558

QL03
NJM2901

QL04
HD74LS122

QL05
PC627

QL06～QL14
1S2473

QL15
2SC945(P,Q)

QM01～QM08
2SC2545(E)

QM09～QM16
2SA1083(E)

QM17, QM18
2SA872A(D,E)

QM19, QM20
2SC1775A(D,E)

QM21, QM22
2SC2320(E,F)

QM23, QM24
2SD666(C)

QM25, QM26
2SB646(C)

QN01, QN02
2SC945(P,K)

QN03, QN04
2SA733(P,K)

QN05～QN08
1SI555

QN09～QN12
1S2472

QZ01
SLP1328

QM31
2SC2238B

QM32
2SA9688

Components and wiring are subject to change for modification without notice.